

A Novel of the Future

Inter Ice Age 4

Kobo Abé

Translated by E. Dale Saunders



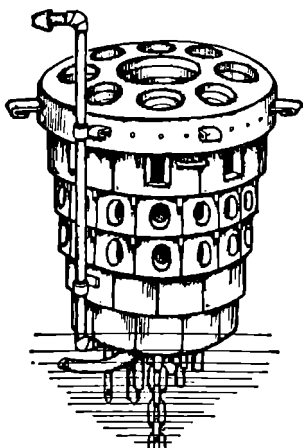
Inter Ice Age 4

INTER ICE AGE 4

by KOBO ABÉ

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THIS IS A BORZOI BOOK

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Inter Ice Age 4

Prelude

At fifteen thousand feet the thick mud of the lifeless sea floor was spotted with holes, and fluffy as if covered with the hair of some atrophied animal. Abruptly it heaved up. Instantly dispersing, it transformed itself into a dark, upward-welling cloud that wiped out the star points of plankton thronging over the diaphanous black wall.

Creased shafts of rock were laid bare. Then a mass, glimmering like brown jelly and spewing enormous bubbles of air, spurted up, unfolding infinitely like the branches of some ancient pine. The spume dilated, and the magma, shining darkly, vanished. After that only a great column of steam pierced the marine snow, eddying upward as it soundlessly dispersed. But the column had vanished midst the great water molecules by the time it reached the far-distant surface of the sea.

At that precise moment, about two nautical miles ahead, a passenger freighter was heading for Yokohama; the passengers and crew felt merely a brief moment of disorientation at the unexpected creaking and trembling of the ship's hull. On the bridge the second mate had been alarmed by the faint but sudden change of color that had occurred in the sea and by a school of dolphins leaping in confusion, but he had not considered these especially worth-while noting in the log. The July sun shone in the sky like molten mercury.

By then the invisible pulsation of the sea had already become a great tidal wave sweeping landward through the water at the incredible speed of 480 miles an hour.

Program Card No. 1

Wherein it is a question of the electronic computer as a thinking machine. Machines are capable of thinking, but they cannot formulate problems. For machines to think, they must be supplied with a problem schedule written in the language of the machine, that is, with a program card.

"How did the meeting go?" said Tanomogi, my assistant, as I entered. He was regulating the memory device and peering at the monitor. I obviously presented a wretched face, for without awaiting an answer, he tossed aside his tools and sighed.

"Don't throw things around like that."

Reluctantly Tanomogi bent over and scooped the tools up, thrusting out his jaw and swinging his arm limply. "For God's sake, when are we going to get down to work?"

"I only wish I knew."

I was angry myself, and witnessing someone else's ill humor aggravated my own. I took off my coat and threw it onto the control panel. I had the impression that the machine had begun to function on its own. That, of course, could not be; it was clearly a hallucination. But in that instant an amazing idea seemed to be coming to me. Confused, I tried to grasp it, but it had already been forgotten. Damn, how hot it was!

"Is there an alternate plan?"

"How could there be?"

After a moment, softly, Tanomogi said: "I'm going downstairs a minute. I'll be right back."

"All right. There's nothing to do anyway."

I sat down in a chair and closed my eyes. I could hear the sound of Tanomogi's sandals fading in the distance. I won-



dered why young Japanese research workers were so invariably fond of wearing wooden sandals. A strange custom. As the footsteps grew distant, they gradually became more rapid. He seemed more determined.

When I opened my eyes, the four volumes of scrapbooks standing side by side on the shelf seemed profoundly meaningful. They contained clippings of articles on the forecasting machine covering a three-year period since the completion of Moscow I. They marked the road I had come. And at the end of the last page, even that road was beginning to disappear.

2

How ironical it was that the first page of the scrapbooks should begin with the sentence by the science critic who had turned against us.

"Specialists, open your eyes!" he had written, beginning the article quite as if he himself had invented the forecaster. "H. G. Wells's Time Machine was after all child's play, for he could only grasp the transition of time by translating it spatially, although he spoke of traveling *in* time. We see bacteria through a microscope, that is, indirectly. Yet, it would be an error to claim that we don't see them at all just because we do not do so with our naked eye. We have seen the future in the same way by means of the Moscow I forecaster. At last the Time Machine has become a reality. We stand now at a new turning point in the history of civilization."

Well, I suppose it might be put that way. But certainly the statement was an exaggeration. As far as I was concerned, the critic hadn't seen the future at all but merely witnessed an inconsequential newsreel.

The movie in the Moscow I forecaster began like this: First of all, a large open hand and a watch indicating dead noon. Beside it a television set showing the same scene. The hand is ordered to close the instant the watch shows one o'clock. A

technician spins the time dial on the control panel, and it is an hour later; only the televised hand on the picture tube is clenched tight, while the hand outside the television remains open.

Then later there was a similar demonstration. At a startling signal a small, sleeping bird shown on the screen flies off in the future, while the bird in the present remains motionless; and at a signal a glass falls to the floor from a hand and shatters.

Certainly, it was natural to be surprised at such experiments. The first time even I had been rather taken aback. But the problem lay elsewhere. Three years later, in the fourth scrapbook, it was a different story.

The critic had made a complete about-face. "In a real sense I think prognostication is impossible in this world. Let's suppose, for instance, that we predict that a given man will fall into a hole in one hour. What fool, aware of the prediction, would ever do so? Such a gullible cretin would be quite open to any suggestion. It is not a question of prediction but simply of suggestibility. Let's just honestly call the thing a suggestion machine and put aside this business of prediction."

Fine. Go ahead and call it anything you like. But the change of attitude was certainly not restricted to this one critic; it was typical of everybody. Everyone immediately switched to the opposite view, and from then on I was treated like a dangerous character.

3

A photo of me smiling still appeared on the second page of the first volume. The article beneath it was a statement I had made in an interview about Moscow I:

"'Of course, there's absolutely no doubt that the machine is authentic,' stated Professor Katsumi of the Institute for Computer Technique with professional calm. 'Theoretically

speaking, an invention like this is quite possible. But I can't believe there's any fundamental difference between the old electronic computer and Moscow I.'"

That was a lie. I was simply green with envy. As I was answering rather speciously, one irritated reporter went so far as to snap: "Do you mean, Professor, that you would be able to construct a machine on the spot?"

"Well, yes . . . if I had the time and the money." And to some extent I meant it. "In general, an electronic computer by its very nature has the ability to make predictions. The problem lies in the technique of its handling rather than in the machine itself. It's the programming—that is, the work of formulating a problem in a language understandable to the machine—that's difficult. Until now the computers have had to be fed by humans. But Moscow I has apparently advanced to the stage of being able to self-program."

"Well then, would you be so kind as to tell us what fabulous possibilities you consider this machine has for the future?"

"Hm . . . In general the greater the projection of a prediction into the future, the less reliable it is. As the movie showed, the prediction range is surprisingly restricted. Even a toddler in kindergarten knows that if you drop a glass it's going to break, without being told by some forecaster. One can think of all kinds of uses for teaching, but I think we must be cautious about expecting too much."

Yet by confiding my innermost thoughts, I was in reality revealing the exquisite jealousy that consumed me. The longer I hesitated, the more I would lose. I should never be satisfied if I did not attempt to construct such a machine with my own hands. At once I made the rounds, trying to prevail upon two or three acquaintances, including the head of the Institute, to assist me. But no one showed anything more than curiosity in the project. I was considerably annoyed by the words of a certain novelist who joined me, saying he shared my opinions. (Of course, he didn't know what he was

talking about, but then nothing appears so plausible as stupidity):

"Perhaps," he had said, "it is natural that only Communists, who try to fit everything into a preconceived form, should have a future predictable by a machine. Yet, for those of us who create our future through the exercise of free will, such predictability doubtless serves little purpose. Even if one insists on projecting it, isn't it as transparent as glass? I fear more than anything that belief in prediction causes a paralysis of the moral sense."

It was not long before the opportunity presented itself. I opened the second volume of the scrapbook. There Moscow I began to demonstrate broader capabilities, just as I had secretly feared it would. Far from being a dream, it was all too real. One after the other in rapid succession came the boring materialistic predictions. First a wonderfully precise weather forecast and then prognostications in the field of industrial finance.

My dilemma at the time defies succinct definition. Suddenly the machine was able to announce the year's rice quota. As I would not know whether that was right for another half year, I went on. It predicted: nationwide bank estimates for the first quarter, anticipated noncollectible promissory notes for a month, sales forecast for a certain department store, next month's retail price index for Nagoya City, and the anticipated volume of the stockpile in Tokyo harbor. One after the other, the estimates were announced. I could not help but be surprised as they began to turn out considerably more precise than the usual margin of error would have led me to anticipate. And the statement that came at the end of this series of forecasts was insolent:

"Moscow I is capable of forecasting the percentage of industrial stockpiles and the price index of stocks in Japan. But since it would do so at the price of provoking financial un-

rest, we shall abstain. We wish nothing other than fair competition."

The general consternation was acute; even the newspapers refrained from unnecessary criticism. Apparently various other free countries had received similar forecasts, but they had remained silent. The ignoble silence continued. Yet it did not mean that nothing was being done. At the demand of the financial world, the Japanese government gradually began to bestir itself.

First of all, a section devoted to the development of a forecasting machine was established in the form of a division within the Institute for Computer Technique, the ICT, as we called it. I was then appointed head. A most fitting consequence, as I was the only person in Japan who specialized in programming. Thus it came about, as I had hoped, that I was able to devote myself to research on a prediction machine.

Scrapbook No. III

As it had promised, Moscow I maintained its silence. Tanomogi was a somewhat ill-mannered but very efficient assistant. Our work had progressed smoothly and was almost completed in the autumn of the second year. We had arrived at the point of being able to show a glass breaking in the television future. (The prediction of natural phenomena was relatively easy.) Every time we showed some simple experiment, the machine's fame, as well as my own, increased—as did public expectations. There are doubtless those who remember the time we were about to forecast the horse races. The people involved were all upset at the thought of losing money if the prediction were made, and at the very last minute they proposed that we call it off. At the time I was elated, considering this to be evidence of the machine's power; but as I thought about it now, the outcome of the affair was perhaps ominous in that we were soon to be ostracized. (I do not know how many props support the world, but three of them at least are obtuseness, ignorance, and stupidity.) And yet at the time I

was at least on the upgrade and filled with expectation. The popularity I enjoyed, especially among children, was wonderful. I basked in glory, frequently figuring in three-color cartoon books and accompanied by a robot, with the ICT as my headquarters. (The actual machine covered 720 square feet and consisted of rows of large iron boxes arranged in the form of the letter E; however, in the cartoons, of course, the machine had to be a robot.) I anticipated all futures and dispatched villains right and left.

At length the machine appeared to be fully functional, and I decided to concentrate on its training and instruction. A man endowed with a brain but without education or experience is useless. Experience broadens cerebral activity. But as the machine could not get about on its own, we humans had to be its hands and feet and go out gathering data for it. It was boring drudgery that consumed money and effort.

(It was, of course, inevitable that the data tended to be partial to economics, given the nature of the Institute and the psychological influence of the Moscow I forecasts.)

The machine had almost unlimited capacity. When fed data, it could competently digest them by itself and store all information away for future reference. Meanwhile, if some compartment became saturated, a signal was flashed from that point, whereupon the machine itself was able to establish a new program plan.

One day the first signal came through. This meant that the machine comprehended all the functional relationships in natural phenomena that could be represented by a curve. I immediately tried a test. I fixed on the picture tube a televised image of some beans I had placed in water; it showed beautifully the approximately three-inch growth that the sprouts would attain in four days. Thereafter the machine developed rapidly. To commemorate the day, I formally announced that the name of the machine was ICT I.

Herewith I close Volume III and proceed to Volume IV. Events take a sudden turn.

We made plans to celebrate in a magnificent fashion the birth of the forecasting machine. We looked about, seeking what best to work our first prognostication on. A committee was formed for the purpose, and the newspapers were expectantly awaiting the decision. At this juncture the completion of Moscow II was unexpectedly announced.

The news gave us an unpleasant jolt. It was telephoned to us early in the morning by the newspapers.

"Have you heard about the forecast of Moscow II? They're saying that within thirty-two years the first Communist society will be a reality, that by 2050 the last capitalist society will be bankrupt. What do you think about that, Professor?"

I broke out laughing in spite of myself. But when I thought about it, there wasn't anything funny at all. On the contrary, I had never heard a story so apt to produce indigestion.

At the Institute too Moscow II was the main subject of conversation. I could not but be depressed by the premonition that something disagreeable was going to happen.

The younger researchers were talking together.

"It's a forecasting machine all right, but it doesn't have much new to say."

"Why? Maybe the prediction's true."

"They forced it, I bet."

"I think so too. It's ridiculous. Why does the future have to be lived according to some set philosophy, for heaven's sake?"

"It's nutty to think in terms of ideologies. It's simply a question of going from a state where the means of production are private to one where they're not."

"Can you say absolutely that such a state is possible only under Communism?"

"Stupid! That *is* Communism."

"Yes, and so that's why I say there's nothing new."

"You don't understand at all."

"What we call ideology is a means by which we know reality, isn't it? Means and reality are different."

"Oh? So what's new about that?"

Then they gathered in my office. Could the machine predict something about such a question? they wanted to know.

"Well now, we could outwit Kosygin by predicting which one of his front teeth will fall out first," I suggested cheerfully.

Alas, no one laughed.

Repercussions from America came the next day. "Prediction and divination are fundamentally different. In the first place, only that which has a moral basis can rightfully be called prediction. Putting such power in the hands of a machine can only be a denial of humanity. Here in America the forecasting machine was perfected early, but we followed the voice of our conscience and avoided political application of it. The present course of the Soviet Union is to attempt to threaten the liberty of men and jeopardize international friendship by betraying their own claims for peaceful coexistence. We consider the Moscow II predictions to be a kind of violence against the mind; we advise its early abandonment and revocation. In the event our statement should go unheeded, we are prepared to petition the United Nations" (from a declaration by Secretary of State Strom).

There was every reason why this unbending attitude of our American ally should influence our work. What we had feared had at last come to pass. About three o'clock we received from the Institute head notice of the reorganization of the programming committee and of an emergency meeting for new members. The Statistics Bureau acted most arbitrarily. With the exception of the Institute head and myself, the technicians concerned were almost all removed, the personnel were changed, and the number was reduced.

As usual the meeting place was on the second floor of the main building, but the atmosphere was completely different from that of the gatherings that had been held up till now, when we had tossed back and forth harmless jokes, like how it

would be if we were to predict the time of divorce for newlyweds. Tomoyasu, the official from the Statistics Bureau who represented the government, was the first to stand and address us.

"The present committee has inherited its former title, but you must consider it something altogether different. It is the unanimous consensus of the Cabinet ministers concerned to consider the period of research at an end for the time being and now to place with the committee the power of decision over program organization. This means that the forecasting machine will not be allowed to function without committee approval. Its independence will be respected in questions of research, but now that we are entering the stage of practical application, it is essential to begin by clarifying where responsibility lies. We shall henceforth adopt a policy of closed meetings. May I ask you all to observe this rule scrupulously."

Then a scrawny newcomer arose. He had some pretentious, not very clear rank. Apparently he was the private secretary of some minister. Nervously he bent his long, slender fingers.

"Obviously the Americans seem to think that the Russians have a political interest in Moscow II. Moscow I excited our curiosity, and out of rivalry we were inevitably forced into the position of having to construct a forecasting machine too. That is precisely what we have done. [Why look at me?] Then, when it seemed we had really reached the stage of practical application, the Russians immediately put their machine to a political use. So we too began to feel nervous about not making political predictions. Let me put it this way, it's as if we have with our own hands conjured up a forecaster-cum-spy. Just think about it a minute. We must not let ourselves be put at a disadvantage inadvertently. I urge you to bear this point in mind."

I asked for the floor. The Institute head looked at me anxiously out of the corner of his eye.

"Well now, what's going to happen to the program plans the members have been working on up to now? I presume, of course, that we should go on with them."

"What are they?" cried the scrawny fellow, peering at Tomoyasu's papers.

"There were three maybe," said Tomoyasu, hastily leafing through the papers and showing him.

"Not three at all," I rejoined. "Plan I was clearly decided on. It was a question of the speed of mechanization and the correlation between wages and the value of commercial commodities. But we hadn't decided what factory to use as a model."

"Just a minute, Professor," interrupted Tomoyasu. "The power of decision has shifted from this meeting to the committee. What's been done up to now is out."

"But those plans have been all arranged, you realize."

"Too bad," said the skinny fellow, puckering his lips and laughing. "They're most inadvisable. They're subtly related to political questions. I'm sure you understand."

The other committee members joined him in laughter. I personally didn't see what was funny. I experienced, in fact, a feeling of apprehension.

"I don't understand. That's absolutely the same as recognizing the victory of Moscow II, isn't it?"

"Come, come. That's what they want us to think. You've got to be careful. Really!"

Everyone present broke out laughing again. What a stupid committee. I no longer even felt like standing in opposition. I had no particular liking for politics. But if Plan I was out of the question, we should have to get to work and draw up an alternate one.

"Well, now. Shall we go on to Plan II: What will the employment situation be after five years if we continue tightening credit at the present rate?"

"That's no good either, I think," said the beanpole, looking around at the other members as if seeking their agreement.

"Well, if it comes to that, everything's related to politics."

"Mm. I wonder."

"Name something that isn't."

"I'd like to get your opinion, Professor. It's your speciality after all."

"Plan III: the inducement factor in the next general elections."

"Absurd! It's the most unacceptable of anything up to now."

"By the way," a committee member in attendance for the first time broke in uncertainly, "I'm not really convinced at all. As a matter of course you make a distinction between the case where you know the prediction and where you don't. If a prediction is made and publicized, doesn't that influence the future?"

"I've explained that a hundred times to the former committee."

Apparently I had spoken curtly, and Tomoyasu hastily offered his services to explain. "For example, in such a case, if one takes action on the basis of knowing one prediction, then another prediction has to be made. That is, a second prediction. And then if that is made public, a third one must be made, and so on ad infinitum. The last prediction is what we call the prediction of maximum value. You should understand that normally we select the mean between the first prediction and the final one."

"Impressive, you've thought the whole thing through quite thoroughly," said the stupid committee member, nodding to me as if in admiration.

"Look here, Katsumi," murmured the Institute head appeasingly, "isn't there a more suitable question, something to do with natural phenomena?"

"If you want a weather forecast, you can get it at the Weather Bureau. Very simple to hitch up their calculator to our machine."

"Well then, something more complex . . ."

I remained silent, I could not bring myself to such a compromise. Damn it, let them justify themselves to Tanomogi and the others. How could I announce that the data we had accumulated within the last half year would now be useless?

The question had nothing to do with natural phenomena or social phenomena, but how to handle the capacities of the forecasting machine that we had come this far with.

The meeting was adjourned for the day with the understanding that I should think up some new plan for the next meeting in the light of the opinions that had been expressed. Henceforth, gatherings were held every other week, but every time the attendance declined, and the fourth time there remained only three of us: Tomoyasu, myself, and the thin fellow. Something definitely would be wrong with anyone who was not fed up with these boring meetings and their eternal leading questions.

From the beginning Tanomogi demonstrated a clearly antagonistic attitude to the way the meetings went. After all, not coming to any decision was for the committee a way of escape that stemmed from their excessive desire to avoid what was controversial. We griped about it, yet we had our pride as technicians nonetheless and did not shirk our work. We desperately racked our brains to set up a program that would satisfy the committee. How many sleepless nights we spent in the days before each meeting.

However, the more we worked, the more we realized how few areas were unrelated to politics. If, for example, we attempted to predict the extent of arable land, then that involved the problem of specialization of the farming class. If we tried to investigate the distribution of completely paved roads some years from now, then we became entangled in the national budget. It serves no purpose to go through all the examples, but every single suggestion in the twelve times the committee met was rejected.

I was thoroughly disgusted. It was like a spider's web: The more we tried to avoid politics, the more we became entangled in them. I had no particular intention of aligning myself with Tanomogi, but it was about time to try a defiant attitude.

With this in mind, I purposely went to the next meeting with no plan. Of course, I did not forget to prick Tanomogi.

"Let me remind you that I, unlike you, have no interest in politics."

The result of that meeting was my crestfallen retreat.

5

The telephone rang. It was Tomoyasu.

"Sir? Let me say I'm much obliged to you. In fact, I've been talking over a number of things with the Bureau chief since our meeting. [Liar! It had been barely a half hour!] It looks as if things are going to be sticky if you don't come up with some kind of new plan by tomorrow afternoon."

"Sticky?"

"We've got to inform the emergency meeting of the Cabinet tomorrow."

"And so you should. As I said before . . ."

"Well, then . . . sir . . . I don't know whether you're aware of it or not, but one sector is of the opinion that the project should be closed down."

Had things come to this? Was I to hang my head meekly and every week keep turning out some useless plan? God, no! It was too late for that now. Should I rather erase the memory of the forecaster, put it back into its original state of stupidity, and hand over the reins to someone else?

I glanced again at the scrapbooks on the shelf and arose, looking around at the machine. The blank pages cried out to be filled, and the machine did not know what to do with its capacities. As for Moscow II, it caused no subsequent trouble with predictions about foreign countries, but domestically it was consistently successful. I don't know, was prediction, as far as freedom is concerned, really as dangerous as all that? Or were we already caught up in psychological warfare? I wondered.

It was hot . . . excessively hot. Unable to sit still, I went downstairs to visit the research lab. As I entered, voices in animated discussion suddenly fell silent. A red flush of confusion spread over Tanomogi's face. Judging from previous experience, he had been denouncing me. "Don't get up . . . please," I said, seating myself in an empty chair. Then, though I had not intended to speak in such a manner, I suddenly broke out bitterly: "We're closing down. I've just had a call."

"What do you mean? What went on at the meeting today, for heaven's sake?"

"Nothing especially. Same as usual. Talk, talk, talk. That's all."

"I don't understand . . . really. Have you finally admitted that we have no confidence in making political predictions?"

"Not in the least. I'm full of confidence."

"Well then, do they say the machine can't be trusted?"

"I said so myself. Then they said: 'You don't trust something that hasn't been used yet, do you?'"

"Well then, damn it, why don't they use it?"

"A simple-minded answer would be just that. But thinking political prediction is possible is itself political in nature."

Even Tanomogi held his tongue in surprise. Why was he quiet? It wasn't my idea. I wanted him to snap right back. Curiously, I was irritated by his silence.

"In general, you know, this business of predicting the future is probably quite meaningless. What's the use for us to know we're going to die in due course anyway?"

"But I'd like to avoid anything other than a natural death, if I can," retorted Wada Katsuko. Sometimes this young woman was extremely common and at others terribly charming. Her weak point was the dark mole above her lips. When the light was right, it looked like a dribbling from her nose.

"Can you still be happy, knowing you can't avoid death? Anyhow, if we had realized that the project would be closed down sooner or later, do you think we would have expended so much time and effort in constructing the forecaster?"

"But, sir, are they really going to close it down?"

Typical of Tanomogi.

"It doesn't really matter. We should go right on making our predictions and putting the results under their noses," said Aiba, playing his usual role of appeaser.

"And supposing the results are the same as the ones announced by the Soviets?"

"Impossible!" exclaimed Wada.

"Does it make any difference if they are?" said Aiba.

"All right, that's enough. I don't imagine there's a Communist among you."

"Sir? What do you mean by that?" Suddenly things had become complicated.

"Well, they say that. I personally don't think much about it."

"Ah . . . I thought so."

"They'd be no match for you, sir."

Everyone laughed, as if in relief. I despised myself.

"Is this business of closing down a joke then?"

Smiling vaguely, I arose. As Tanomogi struck a match and held it out, I realized that I was holding a cigarette between my lips. Speaking so that only he could hear, I said: "Come up to the second floor afterwards."

Tanomogi gazed back at me, surprised. He had apparently taken my meaning at once.

6

"It's true. I suddenly realized what we had to do as I was talking with all of you."

The noise of the fan was really quite irksome.

"I thought so. For some reason, it occurred to me too at just that time."

"Well then, you'll help me? It's going to mean sleepless nights. I don't want the others to know too much yet."

"Certainly not."

Tanomogi and I at once removed the scrapbooks from the shelf, dismantled them, and began the work of reassembling them in such a way as to make them easily understandable to the machine. It must commit their contents to memory.

"I've skimmed through these ideas a number of times. The machine was inclined to want to discuss them rather frequently."

"It's self-consciousness?"

"Yes, I suppose so. Anyway, if I can get it to understand its position, it will certainly think up a way of getting over this crisis by itself."

"But can it go that far on just these data?"

"Further explanations will be necessary, of course. We'll put them on tape later."

Wada brought in some sandwiches and beer for our supper.

"Is there anything else you need?" she asked.

"No, thank you. This is fine."

The hours passed quickly as we worked. Before we knew it, it was nine o'clock, then ten. Every once in a while we would cool our eyes with ice from the refrigerator.

"Shall we have it commit the Moscow II predictions to memory too?"

"Of course, we'll have to. It's an important turning point when we shift from Book Three to Book Four."

"What address shall we feed the data to?"

"Let's make an intermediate reading, including all the news from Russia, shall we?"

The results were most interesting. The first common item was that the forecaster in the Soviet Union was exceedingly active—that was clear from the outset. But what surprised us was the fact that the Moscow II prediction that the future would see a completely Communist society also showed on our machine.

"Strange. What does the machine think a Communist society is?"

"Well, it seems to have a general idea."

"Look and see whether there's another address that reacts."

The machine, now in possession of the basic ideas, understood Communism in this way.

Politics—Prediction— ∞

That is, Communism is the maximum prediction value, the ultimate political prediction which appears once one has complete knowledge of all predictions.

I experienced a rather strained feeling, like a snake biting its own tail, but since the definition was different from a value judgment, there was no use in finding fault with the machine. I decided to push ahead in any event, and by the time I had fed in all the data on hand, it was well past three. I felt refreshed after I ate the sandwiches that had been brought in.

“Well now. From what angle shall we have the machine assemble the program?”

“What do you mean ‘from what angle’? We’re not that far along yet. Before we do that, I would first like the answer as to what data we still need to understand just how to deal with the committee.”

It was annoying, time-consuming work. There was nothing to do but push ahead patiently by feel and intuition, by a kind of trial-and-error method. Before long, the window was faintly tinged with blue. A time when our fatigue was overwhelming. Since, when I remained motionless, I drifted into sleep, I alternated with Tanomogi. After a while, when I looked around, Tanomogi himself was already dozing.

In the meantime, there was a faint response. At first I could not make out the sense. When I tried analyzing the two addresses which were producing mutual responses, I found that one was myself while the other appeared as a man. The prediction machine itself was, of course, me. The machine and a man? What could it ever mean? Just a minute. Wasn’t the vagueness of the response due to the fact that simple data were negating each other? Thereupon I tried suppressing something, leaving the response items as they were. When I did so, the reaction was greater. It was not only a question of suppres-

sion; wherever I erased, the reaction increased in the same way. But I was quite at a loss. What did it want to say?

Suddenly I was aware that the very vagueness of the response was perhaps an answer to my question. A question I had asked without realizing it. The purpose of the programming that I had stated without being aware of it. If that was the case, what, in heaven's name, was I trying to ask? It was obvious: Was there, or was there not, any possibility of breaking the resistance of the committee? If there was, the question was how to go about it.

This was perhaps the answer to my question. If I accepted it as such, it was easy to understand. We must try a prediction about a man—a very private kind of man—made up of data that canceled out other data of a social nature, mutually negating each other, a prediction of a private future.

Indeed, that was probably it. Apparently I had been taking the machine too lightly. It seemed that the forecaster possessed powers beyond my imagination. It was not unexpected that the child should surprise the parent, that the student should best the teacher.

Hurriedly I awakened Tanomogi. At first he was doubtful, only half believing, but soon he too was convinced.

"Certainly it's consistent with the theory. Political forecasting and private, individual destiny would seem correlative in every sense. Anyway let's assume that this is the case."

"Who would be good as a model?"

"Let's ask."

But the machine evidently had no intention of going so far as to indicate a model. Apparently anyone would do.

"It appears we're going to have to do the looking ourselves."

"To start from the first prediction, the man in question must not be conscious that he is being looked for."

"Fascinating."

"Yes, I'm impatient to get started."

I was buoyant. Indeed, I had not realized how much more interesting it would be to deal with a living human being than to forecast numbers and graphs. I suppose it was quite natural

at the time that we did not give a fig for the one whom we should ultimately choose and place under observation.

I napped about five hours on the sofa.

A little before twelve, I put in a call to Tomoyasu and asked for permission to proceed with the machine's suggestion.

The answer came at three.

"Success! The final decision will have to wait until the next committee meeting, but this time even the Bureau head is most receptive to the plan . . . thanks to you."

Since we were confident in the machine and since there was something convincing about it, we had not been especially worried that the idea would not be acceptable, but even so, when I heard Tomoyasu's relaxed voice, I was relieved.

7

We left at four in search of our man—well, of course, we had not decided on a *man* from the outset. Twice we had dropped a sheet of paper on one side of which we had written MAN, and on the other, WOMAN; and as MAN had come up twice, we had decided on a male.

"There're an awful lot of men, you know. Which one shall we take?"

"It's like being a wolf in a flock of sheep."

"There're too many to choose from. It should have been a woman."

"Oh, come on. A woman'll be in the picture soon enough."

We walked around at first in a lighthearted frame of mind. We took the subway and then the elevated as far as Shinjuku. But gradually we began to tire.

"It's no use. We've got to set up some standard for our choice."

"But what? Somebody who looks as if he'd live to a ripe old age?"

"Maybe someone who looks a little unpredictable."

"That means someone of rather ordinary appearance."

But there were too many just such people. It would be purely hit or miss. At length around seven, exhausted from walking, we entered a small café and installed ourselves in a window corner facing the street. Thus it was that we happened on our man.

He was seated at the next table, motionless, in front of a dish of ice cream, his eyes fixed on some spot beyond the door, on which was written the name of the place in gold letters. The ice cream had melted and filled the dish almost to overflowing. He had not wanted it, I suppose, but had ordered it and then just let it melt.

When I looked around, Tanomogi had also fixed his attention on the man. I did not know how long it had taken for the ice cream to soften, but as far as we were concerned now, it was a most disturbing spectacle. A man of ordinary appearance, but one who looked as though he had a story of some kind. This might be too willful an interpretation, but his minimally distinguishing features themselves seemed to us ideal qualifications for our purposes.

Tanomogi jabbed my arm and winked. I nodded in agreement. The waiter came for our order. Tanomogi asked for a fruit juice, but when I decided on coffee he changed his order to that. Until the coffee came, we sat in silence. We were tired; it was not the fatigue but rather the weight of the decision we were now going to have to make that imposed silence upon us. In any case it did not matter who our man was, as long as he was an ordinary person, yet one with distinctive characteristics. But we couldn't say anything if we didn't actually test to see whether or not he was a distinctive person. We were tired of walking. We could go on forever with our overscrupulous vacillating. If one of us had suggested him, we had come to the point where the other would have at

once agreed to choose this man with the melted ice cream for our experimental guinea pig.

Despite the heat, he wore a slightly frayed but well-fitting flannel jacket; he held himself straight and remained motionless. Thus his movements, when from time to time he would change the position of his legs, were all the more conspicuous. But he kept worrying, in an irritating way, an unlit cigarette in his two hands that he had placed upon the table.

Suddenly, rambunctious music began to play. An eighteen- or nineteen-year-old girl, wearing red sandals and a black skirt that came to her knees, had placed a ten-yen coin into the jukebox behind our seat. Startled, the man looked over his shoulder, and for the first time we were able to see his features clearly. A rather strained, nervous face with sunken eyes was stuck on above a black bow tie as if it were held in place with screws. I supposed him already in his fifties, yet there was a curiously young look about him, perhaps because he dyed his hair.

The music seemed to me exceedingly vulgar. But it was apparently not in the least annoying to Tanomogi, who, on the contrary, began to tap his fingers to the beat. Taking a sip of his coffee as if relieved, he suddenly shifted in his seat and spoke to me.

"Sir. The more I see of that man, the more I think he's the one. Let's take *him*."

I simply inclined my head to one side. I didn't really want to be difficult. Abruptly I was overcome with an unbearably disagreeable sensation. As long as predicting a person's future was confined to thinking about it, it seemed a wonderful venture, but when I had before my eyes the being who was perhaps to be the actual material for my experiment, I was quite uncertain whether, in fact, it was all that meaningful. Last night I had been exhausted. Had I perhaps misread what the machine had said? Had I arbitrarily translated not the words of the machine at all, but my own dead-end feeling—a feeling stemming from the frustration I experienced at the committee's refusal to accept any subject for forecasting?

"What did you say? You can't back down at this point." Tanomogi gave a start, and then his eyes narrowed in suspicion. "The machine's given the order, hasn't it? And you've gone to the trouble of getting Tomoyasu's O.K."

"But we still have only informal consent to go ahead. What will the committee say? I wonder."

"Don't worry about that," he said, pursing his lips. "In any case, the Bureau head is amenable. There should be no problem."

"Can we be sure? Who knows, maybe he'll simply go off his rocker by the next meeting. No matter how much we insist our project has no connection with politics, they'll never spend money on something useless. Whether or not we can get the budget, you know, depends on whether or not the project gets through the committee. It's not a simple question of like or dislike."

"But actually, the machine told us to do this."

"We were half asleep. Maybe we read it wrong."

"I don't think we did," said Tanomogi, knocking over the water glass in his seriousness. He took out a handkerchief and sponged the knees of his trousers. "Sorry. But I believe the machine. All of us, including the committee, have been under the influence of Moscow II. We've tried to set up a forecasting program based solely on social data. But if we work from such objective materials only, the maximum prediction value may ultimately be Communism, just as the machine said. In other words, if we use the forecaster and just concentrate on its practical use, that's the only way it can turn out. In this sense, the judgment of the machine that Communism is the maximum prediction value is very interesting. But for man, the most important thing is man himself rather than society. As far as he is concerned, if society isn't good it's intolerable, no matter how rational the organization may be."

"Well then?"

"I mean, the idea of a machine predicting the private future of a given individual I consider really quite plausible. If

we carry it off, we might be surprised by a completely different conclusion from that of Moscow II."

"The machine didn't really say that."

"Of course not! Even I don't especially believe it. I'm just saying that if I say I do, I imagine I'll be able to swing the committee over. And then there should be a number of immediate and concrete advantages. That is, if the experiment is successful and the machine grasps the formula for predicting a man's future. For example, what if we could hand down a perfect judgment by predicting both the future and the past of a criminal? We could nip evil in the bud. We could be marriage counsellors, make decisions about employment, diagnoses of illnesses, and treat various other problems that relate to life; if necessary we could predict the time of death."

"What would be the use of that?"

"I should imagine insurance companies would be delighted." Tanomogi laughed as if in triumph and then said bitingly: "If we follow this kind of thinking, the machine has infinite possibilities, doesn't it? Anyway I think it's a very promising plan."

"Perhaps you're right. I myself don't really doubt the machine's judgment."

"Then why did you say we might have misread?"

"I was just saying that. You know. . . . Despite what you say, I wonder how you'd feel being the guinea pig yourself."

"I couldn't be. I know all about the machine; I wouldn't fit the conditions."

"Suppose you didn't know. I'm speaking hypothetically now."

"In that case, I don't think it'd make any difference. It'd be all right with me."

"Really, would it?"

"Of course, it would. Sir, you're under too much of a nervous strain."

Indeed. Perhaps I was. I alone was excluded from the machine. How could I let the machine exclude me and permit myself to be outdone by Tanomogi?

About twenty minutes after we had finished drinking our coffee, the man at length arose from his seat. Evidently the person he had been waiting for had not come after all. We left the café a few steps behind him. The town was gradually settling into darkness. A restless, mincing crowd, diligently accumulating particles of artificial light, formed a wall, apparently striving to slow the approaching night.

The man unconcernedly left the café and walked with a regular step straight down the alley in the direction of the main street. A steady walking gait. On either side of the roadway, by the tiny *sake* bars clustered close together, episcene characters, neither men nor women, dressed from head to foot in a curious drag, called invitingly to customers in hoarse voices at every second or third shop. The man's businesslike step was all the more impressive in that his bearing was ill suited to such a place.

On arriving at the main street, he suddenly turned completely around and looked behind him. I stopped in confusion; Tanomogi prodded my arm and whispered: "Don't stop. It makes us too obvious."

The voices of girls inviting us into the bars followed us. We had to walk directly toward the man, who stood looking in our direction. But he paid no attention, apparently sunk in his own thoughts. Glancing at his watch, he set off in the direction from which he had just come. The voices, assuming he was returning, called out to him. I felt my cheeks stiffen like boards.

He again went back to the café and looked in. The one he had been waiting for had obviously still not come. Again he went directly down the alley out to the main street. This time there were fewer voices. After I passed by, someone spat. They obviously realized I was shadowing. It is evident to any-

one, I imagine, that shadowing a person is questionable business.

"Is the fellow supposed to find himself finally led into some cage . . . without his even realizing it himself?"

"But we're all locked in cages."

"What do you mean?"

"Well, aren't we?"

The man at once began walking down the main street in a southerly direction. There was a construction site surrounded by a board fence. Suddenly the street darkened. After about two blocks he crossed the road and then doubled back again on his tracks, passing by the entrance to the alleyway he had just left and turning right on a street brilliant with serried arches of lights. At the end of it stood a series of cinemas. When he had gone that far, he again completely changed direction, once more retracing his steps.

"Say there. It looks as if he doesn't know exactly where he's going."

"He's annoyed because the one he was expecting didn't come."

"But isn't he walking awfully purposefully for that? I wonder what he does for a living."

"Mm." Indeed, I had just been thinking the same thing. He was used to being seen by people. Perhaps he had been working in one place over a number of years, some profession where he had to mind how he looked to other people, where there was constant emphasis on appearance. "I wonder what. Are we qualified for what we're doing?"

"Qualified?"

I turned around, thinking Tanomogi had laughed, but he had not, apparently.

"Yes. Qualified. Even a doctor isn't allowed to experiment on humans indiscriminately. If we're not careful, you know, our plan amounts to vivisection."

"Oh, you're exaggerating, sir. If we just keep the business secret it'll be all right. We don't intend to hurt anyone."

"Well . . . if I were put in that man's place, I think I would be pretty angry."

Tanomogi lapsed into silence. But he didn't seem all that disturbed. He had been working with me for five years and could read me like a book. I would never give up this pursuit. Whatever, I did not intend to offer excuses for it. If the machine ordered murder, I would doubtless commit murder, however reluctantly. The ordinary middle-aged man walking now before us, who had something just a little mysterious about him, would be stripped clean of his skin, his past and future laid bare. When I thought about it, I experienced a pain as if my own skin were being peeled off. But turning my back on the prediction machine was at this juncture much, much more frightening.

9

For one whole night we were taken up with the man. He went endlessly back and forth in a narrowly defined area, quite as if he were walking the corridors of an office building, carrying papers. During that time he once telephoned someplace and twice stopped at a pinball parlor, spending the first time fifteen minutes and the second twenty; otherwise, he simply walked at random without stopping anywhere. It was a woman, we supposed, who had broken her promise to meet him. When one got to his age—and I myself was getting there—one gave up expecting things to occur by chance. Nothing was surprising any more. There was no need for an outlet for futile impulses like aimlessly roaming the streets. Only a woman could break up the equation someplace. His was a comical, commonplace, animal-like confusion.

We had guessed right. It wasn't so surprising. About eleven o'clock he made a short telephone call at a public phone located at the counter-front of a store. (Undaunted, Tanomogi observed the number and jotted it down in his notebook.)

Then he took a streetcar and got off at the fifth stop. His destination was a small apartment building behind a commercial street; to get to it he went up an alley for about half a block.

At the gate to the apartment the man stood for some time, looking right and left, pausing to see if all was well. In the meantime, we purchased cigarettes at the shop on the corner. (Thanks to him I had already been obliged to buy over ten packs.) Presently he went in, and Tanomogi at once set off after him. If all went well and he got as far as the room, he would check the name on the door. But if by chance he were challenged by the janitor, we had planned for him to grease the man's palm and get the necessary information. As for me, I was watching the whole apartment house from a corner of the gate. On the lower floor, there were three rooms; in all the curtains were drawn and the lights were on. On the second floor, there were four rooms including the space above the entrance. In every other one the lights were extinguished.

After a little while, in the furthestmost window a light went on for an instant, and the enlarged shadow of a person swayed in it. Suddenly it was dark again. Tanomogi, in stocking feet, came rushing out, clutching his shoes in his arms.

"I saw it! The name card on the door. It actually is a woman's name. Kondo Chikako. 'Chikako' is written in cursive," he gasped as he slipped on his shoes, cowering in the shadow of the gate. "It was exciting. Really . . . doing something like that. First time I ever have."

"Just a second, didn't the lights go on?"

"Yes. And I heard the thump of something falling."

"In that furthestmost room, wasn't it?"

"Did you notice it?"

"Very curious. The flash of light and then dark like that."

"Hey. A hot date, I bet."

"So much the better. I hope he didn't notice we were shadowing him."

"Of course he didn't. If he had, he would have tried to give us the slip before coming here, wouldn't he?"

For some reason I had begun to feel uncomfortable. Our prime purpose, of course, was to get the name and address of the man, but we couldn't stand vigil forever; perhaps he intended to spend the evening. Neither one of us had slept much since the night before. As we also hadn't yet decided to use the fellow as a guinea pig, we could just as easily consider him an adjunct and use the woman—a by-product, as it were—as our main subject, depending on how things worked out. Tanomogi also was agreeable to giving up at this point.

“But as you said, sir, a girl's quite definitely involved, isn't she?”

“Anyway . . . man . . . girl . . . the number's the same.”

We decided to withdraw for the time being. We went out to the street, where I took leave of Tanomogi and returned home, holding a head aching with fatigue. As I listened mechanically to my wife's chatter about how the children had got into a quarrel at school, again and again I forced myself to stay awake. But at length I slipped into a confining hole of sleep, just big enough to let me in.

10

The next morning I overslept somewhat, as I had anticipated I would. It was after ten by the time I got to the Institute. At first—I myself cannot explain why very well—I thought that in order to get the plan that Tanomogi and I had conceived through the committee, we would inform the Institute members after obtaining formal committee approbation. Even our adventure last night we had accomplished by ourselves and had told no one about it. The man we followed was a nobody, and so there was the advantage that the many-faceted investigation we had hitherto conducted would probably not be necessary. But we realized by our own experience that the husk encapsulating a person's private life was not all that easy to construe. If we just spent the time at it, perhaps it would

not be so difficult to construct a rough plan, but unfortunately there remained only five more days until the next meeting of the committee. If the plan didn't get through this time, the situation would worsen and almost assuredly we would be ordered to close down, at least temporarily.

But in the time it took to get to the Institute, I had changed the procedure and decided to be co-operative and reveal the plan in its entirety to the Institute members. If I told them the circumstances, they would keep the secret. I would proceed mechanically, dividing the business of looking into the identity of the woman and tracing the man's background between two groups, establishing their areas of responsibility in detail. I would collect all the data I could within two days, and based on them, co-ordinate future plans, possibilities, and perspectives. First on the agenda was to get the approval of the committee.

Before I went to my office, I looked in at the research room downstairs in search of Tanomogi. I was told that he had been awaiting me for some time in the computation room on the second floor. I left word that I had something to say and that everyone should gather upstairs, and at once went to Tanomogi.

Tanomogi looked up at me scathingly, saying nothing in greeting, his two elbows resting on the desk beside the control console. A strange manner.

"What's to be done, sir?" he began suddenly without changing his position.

"What do you mean by that?"

"Something unexpected's happened, hasn't it?" He opened the newspaper on his lap, thrusting his finger at it as if he were challenging me.

"What in God's name are you talking about?"

Tanomogi stuck out his chin as if in amazement, exposing a long neck.

"Sir, haven't you read the papers yet?"

Just at that instant the people from the research room came

up the stairs in a clatter of wooden sandals. Looking suspiciously at me out of the corner of his eye, Tanomogi rose. "What's all that . . . ?"

"I called them up. I thought I'd get them to take over part of the work."

"Forget it. Look at this," he snapped, thrusting the newspaper at me. Opening the door violently, he yelled at the researchers, who had just arrived: "Later! Come back later. When we finish we'll come and get you."

I could hear some witticism from Wada Katsuko, delivered in a high-pitched, displeased voice, but I could not make out exactly what it was. But that was the least of my worries. An article in one corner of the paper had been encircled in red pencil. As I stared at it, I suddenly felt as if the air around me had become like sticky jam.

ACCOUNTING SUPERINTENDENT STRANGLED BY MISTRESS

About midnight on the 29th, Mr. Tsuchida Susuma (56), accounting superintendent for Yoshiba Enterprises, Shinjuku Ward, Tokyo, who was visiting at the Midori Apartments located at 6— Street, in the same ward, was beaten and strangled to death by his mistress Kondo Chikako (26), a resident of the same building. The girl turned herself in at the nearest police station. She claimed she had acted in self-defense in view of Mr. Tsuchida's violent reaction to her late return. Mr. Tsuchida, said his colleagues, was a serious-minded man who had been working at his job for 30 years. All agreed that the event had come like a bolt from the blue.

Tanomogi waited patiently as I slowly read through the article five or six times.

"That's what I was talking about, sir."

"Mm. What about the other papers?" A drop of perspiration fell from my forehead, spreading out on the article.

"I bought about five, but this seems to be the most detailed article."

"Pity. A month earlier and we might have been able to

predict this. Well, he's dead now, and we can't do anything about it."

"How nice if things were that simple. But they're not."

"What do you mean? There's no object in predicting the future of a dead man, is there? We don't have time to play detective."

"I'm worried."

"What's there to worry about? Anyway, a case like this is much too special and unsuitable to use as material to try on the machine."

"Don't fool yourself. It should be quite clear to you, sir, what I'm talking about. Any number of people saw us shadowing this Tsuchida fellow. Especially the old tobacconist on the corner where we bought cigarettes the last time."

"Oh, I don't really think there's much to worry about. Since the criminal's already confessed."

"She has?" Tanomogi licked his lips in irritation and began to speak rapidly as if he were impatient. "I don't think so. This single article is packed with equivocal information. For instance, don't you think it's overdoing it a bit to strangle someone after you've beaten him to death? Just because a young girl's been called to account for coming home late?"

"When she struck him, he got violent and she killed him, I presume."

"Impossible. How could a young girl strangle a violent man? But anyway, let's assume she did. You must remember it yourself, sir. As soon as he entered the room, the lights went on for an instant and there was the sound of something falling; then it was immediately dark again. Now, sir, you said you saw the shadow of someone in the window at the time. In point of fact, I also saw the shadow of someone moving against the glass in the door. When I think about it, I find a real contradiction. How is it possible, with one source of light, for a shadow to be cast at the same time on a door and a window located in opposite directions? It means there were two individuals."

"Well, the man and the girl, I suppose."

"But the article says the girl came back later than the man."

"Not necessarily. It's rather vague on that. According to the way it's written, it can be taken to mean either."

"But I distinctly saw the man open the door with a key myself. Besides, I checked with the operator on the telephone number he called last, and it turns out to be the one to that apartment. He was checking whether the girl was back or not. Judging from his subsequent behavior, there's little doubt that she was not."

"But supposing she returned just after the telephone call?"

"Well, why was the room dark then? What was the falling sound? What's the meaning of the light switched on and then right off again?"

"What are you trying to say? I don't get it. Anyway she gave herself up."

"No, she did not. Even the police aren't so stupid as to think that. Maybe the people in the room below remember the time they heard the noise of something falling. Maybe someone next door will testify that the lights were out all the time. Or maybe they'll deduce from the traces of the strangling on the neck that it wasn't the work of a woman at all. And once they've doubts, they'll follow their investigation through to the end. Traces of stocking sticking to the floor of the corridor . . . fingerprints on the wall by the door . . . and then the mysterious shadowers."

"Did you leave your fingerprints in a place like that?"

"Maybe. I never dreamt things would turn out like this."

"Well, even though they have, if the police just look into it, they'll find evidence right away. Ridiculous! You obviously have no motive. They may be suspicious, but there's not a shred of evidence."

"I suppose that's true. But they'll certainly be suspicious. Until we definitely convince them of the substance of our work."

"Most unwise!"

"Yes, unwise. The papers'll get wind of the project in no time. And they'll put aside the murder business and start

writing about our work. A nightmare of the machine age that spurns the dignity of man, et cetera, et cetera . . ."

Tanomogi shut his mouth as if something had suddenly occurred to him. Perhaps he was afraid he might hurt me doubly. But that was enough. At this point I had no time for playing at introspection.

"You're quite right. A project like this could easily be considered risky. At the slightest evidence of danger the committee, which is timid in any case, would be only too glad to have the pretext of showing its heels. But you've really thought things through. You could be a detective or even a lawyer."

"I didn't think so coherently at all from the beginning. It's just that I had a terribly strong and ominous feeling as I stood there in front of the door. Then when I read the article, I intuitively felt that the criminal was not the girl. If she isn't, then we're the ones who are going to be suspected first. If we intend to continue our work, we can't pull out now."

"Which means?"

"Which means that we've no other choice than to take the initiative ourselves and push ahead."

"Push ahead? Mm . . . I wonder."

"Before we have all sorts of people coming in on us we've got to come to an understanding with the police."

"I suppose it would be possible if we go through Tomoyasu. It would be a mistake to try and cover up. Besides establishing a plan of action, we've got to be firm and say what's really necessary."

"Thank God, explanations aren't lacking. Mind you, Tsuchida's body is still fresh. He hasn't been dead long."

"Tsuchida's body?"

"Tangible material on which to draw future conclusions. If the method of preservation is good, they say the physical body can be kept alive about three days. Even after the nerves have died."

Suddenly day dawned in my brain, the windows opened, and the cells began to move briskly. Once again I had

been bested by Tanomogi. But I was not angry. After all, he was my successor.

"Isn't it a splendid plan? It's not just fantasy; it's worth trying. An excellent idea, I think, to start from a dead body."

"We'll start with the mathematical inductive method. Then the girl. We might have stumbled on this business by chance, but it's really perfect."

"Then, if we're successful, will the real criminal be next?"

"Oh, no. Then comes practical application. That'll be fine bait to catch our committee with."

11

Now that the plan was set, I could not waver. There was still time before the arm of the law got to us, but we had to think of something before the body of the murdered man was returned to the bereaved family. It was impossible, of course, not to bring in our colleagues downstairs. Tanomogi said he would feel confident if he were put in charge of them. We divided them, according to their respective strong points, into three work groups: one for the body, one for the girl, and one for uncovering the real criminal. Tanomogi decided to take charge of the whole investigation himself, with the body as the central point. While I was gone negotiating with Tomoyasu at the Statistics Bureau, Tanomogi would finish the group division and tell everyone of the course of action, asking all to stand by to begin at any time now. I checked that Tomoyasu was in his room and left at once.

Tomoyasu was most affable. He never stopped smiling all the time I held forth on the various possibilities that had come into existence from the actual use of individual predictions. In the end he was agreeable to handling things by acting as intermediary between us and the head of the Statistics Bureau. I myself betrayed no misgivings, but strongly emphasized how favored we were by fortune. The conversation

gradually came round to the murder incident; and as I had anticipated, the smile disappeared, and Tomoyasu's usual expression, as if equipped with a dehydrating device, returned. I gave no inkling of my apprehension concerning the police, concentrating my attack chiefly on how the prediction machine could be useful in crime prevention. After more than an hour of strenuous effort I was successful in winning him over.

But, of course, that did not mean we had convinced him to negotiate directly with the Bureau. That did not lie within his jurisdiction. I simply convinced him to report the matter to the Bureau head. Then I had to spend another hour repeating the same fervent speech to him. Unlike Tomoyasu, he remained expressionless from beginning to end. And expressionless, he made us wait while he disappeared somewhere.

Presently there was a telephone call from Tanomogi, saying that apparently we had been raided by the police; I was most uneasy. But Tomoyasu had quite recovered his former affability. Having passed the responsibility to the Bureau head, he was relieved, I suppose. He held forth with the greatest zeal, but stupidly, on the possibilities of the prediction machine, and I could not bring myself to answer.

Another hour went by. I was on the point of giving up. I had begun to think I had been quite forgotten when, at length, the Bureau head returned.

"It's all right, I guess," he said in a businesslike voice. "We managed to reach an agreement. I won't put it in writing, but if you need to, refer questions to me. The point is that action has been taken."

His tone was so disinterested that I did not at once realize this was an answer I should be happy about. After I had left, I soon recovered my senses and rushed to a public telephone. I could perceive the tension in Tanomogi's voice even through the receiver. I was put through to the computing room at Central Welfare Hospital (the room where the electronic computer used for examinations and diagnoses was located). They were prepared to begin as soon as the body was delivered. I immediately dispatched Aiba to the police station and ordered him to transfer the corpse to the hospital, and then

rang off. I suddenly stopped perspiring and experienced a pain as if my whole body had broken into pieces and was flying off in all different directions. It was the excitement. After my perseverance in this hopeless business, now that I had grown accustomed to it, as if perseverance were the norm, the real work had at last begun. I suppose this is what one calls euphoria.

12

Preparations were complete. The cooling device groaned, and chilled air entered the room, eddying up pleasantly around our legs. We were already connected by special telephone with the computing room at Central Welfare; and the Institute researchers, divided into three groups, each one equipped with a portable walkie-talkie, were already standing by to leave. (Tanomogi was really efficiency itself.)

At length everyone had gone. Motionless, I stood waiting before the television set and the three walkie-talkie receivers in the computing room, silent except for the monotonous murmur of the forecaster. I was now a cog in the machine. All of the reports sent in were to be fed directly to it. They would be automatically classified and memorized, and so my role was simply to respond to the machine's signals, assisting as I was instructed. I was nonetheless proud of my part. For it was I myself and no one else who would give the machine its capacities. You are an enlarged extension of me, I said to it with satisfaction, a part of me magnified.

3:50. Exactly twenty-five minutes since Tanomogi and the others had left. The first contact came from Tsuda, in charge of the criminal group. There was no need to repeat his report. Tanomogi's surmise had been so perfectly exact it was eerie. First, eyewitnesses confirmed that the girl had returned home just before midnight, and there were bruises on the back of the man's head that he could not have inflicted on himself.

There seemed to have been a kind of dispute, true, but from the results of the examination of the murdered man's corpse, and for other reasons, there were certain equivocal points in the girl's confession as it stood. Evidence of an accomplice was definitely there, but the girl may have been intimidated into silence, for she had not tried to change her confession. They said at the station that in their opinion the solution was simply a matter of time. It was difficult to catch the absolutely casual criminal, one with no previous police record. Indeed, the contrary was true: The more calculating one was, the easier it was to betray oneself. (At first I was confused. It was difficult to judge on the spur of the moment whether or not Tanomogi and I should have reported what we had seen last evening. But given what the police had said, there was little chance that suspicion would fall on us who were absolutely innocent bystanders. And then, I was personally confident that we would uncover the real criminal. So for the time being I decided to wait and say nothing.)

Then, at once, came a detailed report on Kondo Chikako from Kimura, who was in charge of the girl's group. From her age, domicile, and profession to her personal history, character, appearance, height, and weight, it included all distinguishing features, at least concrete elements to feed into the machine. But that's enough for the introduction. It was clear just how insufficient for catching a person such superficial data ultimately were. The analysis of the body would begin presently, and it would be necessary to start all over again with a completely different method. Moreover, if need be, the police could give us this sort of information any time, and if we wanted to stay clear of them we could easily gather it on our own.

The analysis at length began sometime after eight. Actually, it seemed that more preparation would have been desirable, but as they feared at the hospital that they would not be able to revive the corpse, we all decided to push on despite the difficulties. In the meantime, three or four additional reports came in from the heads of the groups concerned with the

criminal and with the girl; but as the answers to all questions would soon be cleared up by the analysis of the body, I decided to omit them too. An hour before the analysis was to begin, I had talked for some time by television with Dr. Yamamoto, who was in charge. He said that with the electronic computer in the hospital they could reproduce approximate biological reactions and analyze them, but that they could not go so far as to decipher the reflexes of the brain. That was reasonable. The brain was a world that even our own machine, which could program itself, had not yet experienced. Anyway, I got him to assemble the responses of the brain cells to various stimuli; I would try to have them decoded and memorized by the machine. Perhaps it would be necessary to have it digest at the same time, as a sample, the brain waves of a living man. Certainly a detailed map would be necessary; in the case of the dead body we would divide the brain into at least eighty or more areas and not settle for the rough brain waves recorded heretofore. (Even though, in the case of a living body, one could not obtain ripple marks as clear as in a dead body, it was possible to get approximate ones; and if a simple sample would do for filing purposes, Dr. Yamamoto gladly promised to give us one.)

Ten minutes before, the body had been delivered. It was hermetically sealed in a large glass case containing a special gas, and the technicians had to work on it from a distance with mechanical hands. Dr. Yamamoto stood by the case and explained what was happening. (Of course, I was listening to him by television.) Radiations were emitted from the left-hand side of the room, passed through the corpse, and projected a kind of anatomical chart of the body on the right wall. I could not actually see this picture, but metal needles as fine as a strand of hair at the extremities of the mechanical hands were accurately guided by means of an invisible force to certain prescribed places in the nerve fibers. The metal helmet the corpse wore on his head sprouted tufts of copper wire in place of hair and replaced the cranium, which had been

removed. This helmet lay directly on the brain and played the role of meter, I was told.

13

Suddenly a strong light went on, illuminating the interior of the room. The camera moved to the head. Tanomogi was there, abruptly, on the far side, smiling into the lens. Slightly to one side, the anxious faces of Aiba and Wada Katsuko were peering fixedly at the body's face. At that angle the mole above Wada's lip was not noticeable, and she looked considerably better. The camera rotated, closing in, as the man's naked body, gleaming whitely, filled the frame. A row of brown spots, evidently traces from the strangulation, went round his neck, his chin jutted out, his lips were slightly open, the eyes tightly closed. A beard sprouted raggedly from skin that seemed covered with dust. Was this the steadfast, hard-working accountant with a family, the one who had a mistress in whom he was so involved that he had been murdered by her? He seemed considerably more lively, indeed more dangerous than last night when, laced into his flannel suit, he had sat so properly on his chair in the café with the dish of melted ice cream before him. Envious, and at the same time comic, he made me feel most uncomfortable.

At length the analysis began. First weight and height were measured, respectively 120 pounds and five feet one inch. Then in an instant the features of the various parts of the body were expressed quantitatively and relatively. The mechanical hands began to move. Simultaneously a number of needles were thrust through various parts of the body. A row of serried lights fixed on the wall vertically and horizontally and connected to the needles blinked on and off as they converted the words of the machine. Whereupon, in response, the body in the box began to move freely, quite as if it were alive. The movement went from the tips of the toes to the

upper half of the body, finally causing the lips to stir, the eyes to open and shut, working even the facial muscles. Wada heaved a groaning sigh; even Tanomogi's lips trembled, and his face was bathed in perspiration.

Dr. Yamamoto said: "This way we determine the motor function. Movement is not a purely physiological feature. It is also connected with the body's underlying history as an individual."

Then came the analysis of the internal organs, and when that was done they at last got to the brain waves. The needles in the mechanical hands increased in number, seven or eight concentrated on the face. They stimulated the sense organs such as the eyes and ears. A receiver was lowered to the ears and a device like a pair of large-sized binoculars to the eyes; sounds and images began to come in, whereupon the eighty delicate wave ripples on the screen began to undulate violently.

"First of all," said Dr. Yamamoto, continuing his explanation, "let's try beginning with the stimuli of very common, everyday phenomena. We'll use the five thousand most ordinary reactions we have produced in our lab. To them correspond a group of simple nouns, verbs, and adjectives by which they may be described. Then, we'll use five thousand slightly more complex reactions made up of combinations of the first five thousand and their corresponding descriptions. Usually that's enough for us to be able to read the reactions to the stimuli and perform the necessary pathological analysis. However, today, as an experiment, we have decided to go further. It's just an idea of ours, but I wonder what will happen if we use as stimuli words that have appeared in the newsreels and newspaper articles over this past week."

"It's a brilliant idea," I began enthusiastically, and Tanomogi in the television nodded his approval. Well done indeed. It was not always that the greater served the lesser. In the case of a fishnet, a finely woven one catches both great and small. Even in the net of thoughts, the finer the better.

But as I watched, the line of wave ripples, unchanging, still kept wavering and trembling like hot air over a street.

I could not help being impatient for the time when the switch on the forecasting machine would at length be turned and the high-speed output would begin humming. What, I wondered, would the body have to say?

14

Dr. Yamamoto cut the switch for the brain-wave analysis and nodded on the screen.

"For the time being we've completed the scheduled analysis."

I thanked him and snapped off the television set with an uncomfortable feeling. In the vanishing lines Tanomogi's displeased eyes looked challengingly into mine. Indeed, I may have been slightly too abrupt and wanting in courtesy. Everyone was expectant and curious about what the deceased accountant Tsuchida Susumu would have to say through the machine. But I had my own ideas. The results of the analysis must not be published until the problem of the murder had been put in some kind of order. At all costs we must avoid irritating the cowardly committee with sensational rumors. If anything like murder got involved, that in itself would make the committee back off. As far as I was concerned now, over and above testing the forecasting capacity of the machine, the priority was for investigating this strange crime. (I would talk with Tanomogi about it when he returned.)

Just as I was about to turn the output switch, the buzzer on the telephone sounded. I took up the receiver and a distant, muffled voice said: "Hello? Hello? Dr. Katsumi?"

I seemed to remember the voice, but I wasn't sure. From the city noise in the background I assumed the call was being made in some public booth.

"I'm calling to warn you," the voice went on. "You'd better not go too far with us."

"Us? Who is us?"

"Look, I'm telling you. There's no need for you to know. The police already suspect the two fellows that were shadowing that dead Romeo."

"Look. Who are you?"

"A friend, Professor, a friend."

The phone went dead. I lit a cigarette, waiting for my composure to return, and went back to the output device. I turned the switch and read the signals. I summoned from several addresses the analyses of the dead man, connected them up, and set the machine on "induction." The man was quite dead, but in the machine now he would be revived with his responses precisely the same as they had been when he was alive. Of course, it would not be the man as he was. Clearly there would be a difference between his actual body and the projected one. It would be interesting to speculate on that difference, but I had no time to do so now.

"Can you answer a question?" I asked the machine point-blank, containing my excitement.

After a short time the answer came, weak but clear.

"It is possible, I think, if the question is concrete."

I was bewildered at the overly cordial tone, and I had the impression that a real human was concealed within the machine. But this was merely a simple reaction. It could not have a conscience or a will.

"I wonder if you really understand you're dead."

"Dead?" The equation in the machine gasped in surprise. "Do you mean me?"

It was too real to believe.

"Yes, of course," I said hesitantly.

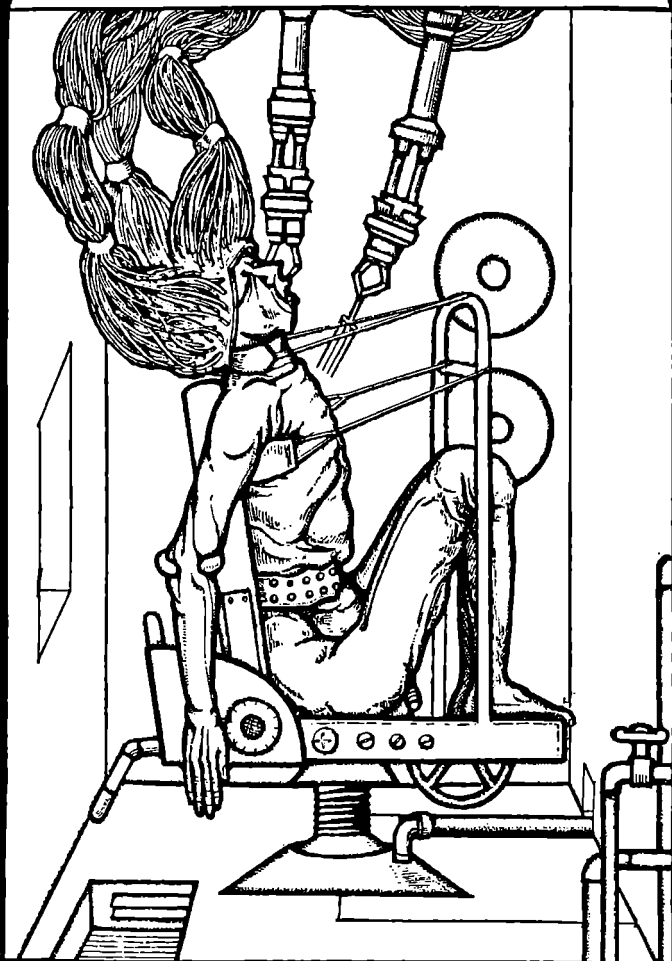
"Is that so. Then I surely must have been killed. Is that it?"

"Don't you have some clue about the murder?"

Suddenly the voice became sharp and grating. "But who for God's sake are you, telling me this?"

"I . . . ?"

Machi



"No, I mean what's this place here? It's strange, isn't it, to be talking and thinking even though I'm dead?" said the voice, cracking nervously. "Ah, you're fooling me, aren't you. I see. You're trying to trap me."

"Not at all. Actually, you're not a human being. You're the personality equation of a man by the name of Tsuchida Susumu, that has been committed to memory by the machine."

"Don't make me laugh. And stop this ridiculous deceit. Damn! All my sensations seem to be gone. But where's Chikako? Say, what about turning on the lights?"

"You're dead."

"Okay, drop it. I've decided not to be afraid."

Wiping away the perspiration that had run into the corner of my eye, I pulled myself together. "Tell me. Who killed you?"

The machine made an insulting sound. "Rather than my telling you anything, I'd like to know who *you* are. If I was killed, it was by you. Say, turn on the light and produce Chikako. Let's come to terms."

Apparently he thought that I was the criminal. This was proof that his consciousness was still at the point just before he was killed.

"Just who do you think I am?"

"How should I know?" responded the man in the machine, shrilly, like a boy whose voice is beginning to change. "Even though I might look like it, I'm not so dumb as to be taken in by such lies."

"Lies? What lies?"

"Come on!"

The rough, wheezing breathing came at me, hanging over my face. I realized it was only a machine, but I had an eerie feeling. There was too much discrepancy with the absolute correctness I had expected of it. Perhaps I had not proceeded right. I should not have come to an outright showdown this way. We should face each other more objectively, with a safety zone between us.

I turned the switch, and the man at once dissolved into

electronic fragments. His existence had been so lifelike that I was conscience-stricken when I erased him. Hastily I turned the time scale, which had been on unspecified time, back twenty-two hours, to when the man was still waiting for the girl in the Shinjuku café. I connected the television and turned on the switch again.

The phone rang. It was from Tsuda, in charge of the group concerned with the criminal.

"How are things? Any results from the analysis of the body?"

"Not yet, no," I began casually, but surprised when I realized that I had obtained one important piece of evidence from the exchange with the machine just now. In my conversation with Tanomogi we had foreseen the worst possible situation, one in which the real criminal was not the Kondo girl but a different person entirely. Yet it remained a prediction, and there was no actual basis for it. In the conversation now it was clear that the man had expected a third party, someone other than the girl, a man whose interests stood in opposition to his own.

"What's going on with you? Have you any new information?"

"Not a thing. Apparently two men shadowed the man as far as the apartment. The tobacconist near the building testified to it, but in any case the girl put her signature to the confession. Opinion is evenly divided among the detectives, and no one appears very interested in the two."

"But what's your own opinion?"

"Well, a while ago I contacted Kimura, who's checking on the girl. Unless the relationship between the two is clarified, the basis for assuming the criminal to be other than the girl is extremely slight. And then even if we do suppose the existence of someone else, is the investigation of an incident like this all that important?"

"We won't know until the case is solved." Then in an irritated tone, I added: "Don't you bother about the conclusion. Concentrate rather on data. I think it would be well if we had an exact sketch map of the girl's room."

"But I don't understand. However will such things help with the forecasting plan?"

"I've been telling you. We won't know until we try them!"

I was at once repentant of my angry outburst. "We'll talk this all over together later when we're not rushed. I'm impatient because we've no time. Let me say it again: Watch out for the newspaper reporters. That'd be the last straw for the committee."

Indeed things were gradually getting difficult. Rather than formulating a plan that would win over the committee, it looked as though I would have my hands full just vindicating myself. I had the impression that the more I struggled, the deeper I became enmeshed.

15

I replaced the receiver and looked around. On the screen appeared Tsuchida Susumu's retreating figure when he was still alive twenty-two hours before. Again I experienced a sense of pride at the machine's efficiency. As I turned the co-ordinate plate, the man turned completely around along with the background. But this background was after all the man's inner landscape, and so only what he saw now was distinct; the rest was crooked and irregular and faint. Thus the section where Tanomogi and I should be was dead black, as if nothing existed in it. The ice cream on the table was completely melted.

The man stuck his spoon into the mush and sipped some up with the tips of his tapering lips. During that time his eyes did not leave the door. Oh, yes, I thought, searching my memory, that time. Soon the jukebox would begin to play and the man would look over this way. Let's just wait and see.

At length the music began just as I had anticipated it would, and the man looked around. In order to see how we were reflected in his eyes, I turned the co-ordinate plate 180

degrees. The jukebox and the girl in the miniskirt stood out extraordinarily distinctly; in front of them we appeared only faintly, like shadows. (That was quite all right. If he had not seen us, there was no fear that his corpse would become our accuser.)

Then I tried advancing the time two hours.

The man was walking down the street.

I advanced it still another two hours.

He was standing in front of the public telephone.

After that I tried condensing the passing of time to one tenth the normal velocity. As in a movie that has been speeded up, the man jumped quickly onto the streetcar, got off, charged up the alley, and arrived in front of the girl's apartment. At that point I shifted back to normal speed again.

From now on we were getting to the part with which I was unfamiliar. If all went well, not only would the real murderer be revealed, but we would have a complete set of valuable data to show to the committee, and in one fell swoop matters would change for the better. Intensely anxious, I kept my eyes riveted on the man's movements.

He mounted the dark stairs and stopped, gazing fixedly toward the end of the corridor on the second floor. He began hesitantly to walk forward, his head tilted. Muffling his steps, he advanced toward his already appointed death. Tanomogi did not show up in the picture, but in the shadow of the stairs he must be looking on.

The man took a key from his inner pocket; and after wiping the sweat from his forehead with the back of his hand, he bent over and opened the door. The sound of the lock opening was unnaturally sharp, as if suggesting his own inner tension. He jerked the door open, entered, and closed it behind his back with his other hand. From the sound, I had the impression it was not shut tightly. Beyond, in the darkened room, one could see a gray window and some distant lights. He removed his shoes, and extending his hand along the left wall, flipped on the switch. (Ah . . . Death approaches!)

With the light on, a medium-sized room came into view, a girl's apparently, in which a small cabinet hid one corner. No one was there. Only an intense muteness invested the chamber. The man's gaze shifted idly left and right. There was a low sound behind him. A faint creak that came from nowhere. And just as he looked around, he doubled over limply. The floor rose up obliquely and struck his face. A great shadow, twisted like a hook, leaned over and switched off the light; it fell gently over him. The screen was plunged into blackness. It was then that he had died.

I stared for some time, motionless, at the trembling black screen. He hadn't seen the murderer. And since he had not, he might even become an actively hostile witness. The girl had not been in the room. That was what she had testified, but she had been accused on the grounds that she had returned late. Then it was a patent lie that she had done the killing. And that was not all. Suppose he thought that the creak he had heard in the background was the noise of the door. On the other side of that door was Tanomogi. The results of the analysis of the body were becoming more and more unfavorable to us. It was as if we had put the rope around our necks with our own hands.

I had apparently remained lost in thought and oblivious to things about me for some time. Suddenly conscious of someone, I turned around and found Tanomogi standing with his back to the door. I had been quite unaware of his arrival. (For an instant I had the hallucination that the scene I had just witnessed had been revived, that I was standing in place of the murdered man. I shuddered.) Tanomogi laughed, shaking his head over and over again and running his fingers through his hair.

"Pretty troublesome business."

"Did you see?"

"Yes. Only the last part."

"What about the others?"

"I'm having Aiba and Wada wait over there. I thought some addition to the analysis might be necessary."

"I waited for you to telephone."

Tanomogi picked at his sweat-soaked shirt, drawing it away from his skin, and slowly licked his lips. I turned my chair around and faced in his direction, continuing the conversation in a spiteful tone that surprised even me.

"Look here. I received a threatening phone call from some nut."

"What?" said Tanomogi, his body stiffening as he grasped the back of the chair on which he had been about to seat himself.

"He said not to get too involved. He said the police had already got wind that there were two men shadowing Tsuchida. Maybe it's true. In Tsuda's report it said the same thing."

"So?"

"So the fellow who made the telephone call knows that the two men shadowing were us."

"Of course." Tanomogi made a rasping sound, and bending his long, slender fingers one after the other, said: "Well then, someone else happened to be there."

"That's exactly what we'd like them to believe."

"I see," said Tanomogi, biting his lower lip, his gaze slipping to the vicinity of my chest. "Maybe the fellow on the phone is actually the real criminal. But you, sir, are the only one who talked to him. Besides, you're my accomplice. If the police really begin looking for the two shadowers in earnest, we're like rats in a trap."

"I've been trying to think of the relative position of the shadow at the window and the layout of the room. That shadow is definitely the one that was cast when Tsuchida collapsed. But you were the only one to see the other shadow from where you were."

"If they claimed it was my own shadow, I couldn't deny it," he muttered with a forced smile, clicking his tongue. "It's fatal for us that our model didn't see his murderer. We go to the trouble of analyzing the body, and now it's become our enemy. Things have got to the point where if there were the

slightest possibility that I might have a motive, you'd suspect me, and I couldn't do a thing about it."

"The motive's another difficult thing to establish, because it won't be easy to make him confess." Then I explained how the man, though he was merely the reaction of the machine, stubbornly refused to recognize that he himself was dead, and how hard to manage he was. Tanomogi listened to me in silence. Then he said quietly: "Well then, there's nothing to do but take him unawares."

"What do you mean by that?"

"I mean, to make him think he's still alive."

16

Perhaps we can say that we succeeded more or less. We put into his—I mean the machine's—mind that he was actually in bed in the hospital and that the fact that he could neither see nor feel was due to shock. But, we told him, that too would soon get better, and he began to speak surprisingly easily, crying for revenge. Since we had been clever enough to make him talk, we had been successful, I suppose, but it was still a question to what extent that would help us.

It was rapidly getting dark even though it was not yet six, and it had begun to rain. Great drops spattered against the windowpane. I listened to the machine's confession with a restive feeling, as if I were seated on a two-legged chair. The following is a verbatim report of what it said.

REPORT

I MUST SAY, IT WOULD BE BETTER TO BE DEAD. IT'S DISGRACEFUL. UNDERSTAND? I'M OLD ENOUGH TO KNOW BETTER. A DISGUSTING WOMAN CHASER. I WONDER WHAT MY WIFE'S SAYING. SHE'LL NEVER FORGIVE ME. I'VE NEVER BEEN THE SLIGHTEST BIT DISSATISFIED WITH HER. TO TELL THE TRUTH . . . [SECTION OMITTED.]

THE GIRL KONDO CHIKAKO SANG IN A CABARET. BUT SHE WAS A QUIET, WELL-MEANING THING; YOU'D NEVER BELIEVE SHE WAS THAT KIND. SHE HAD AN ANGULAR, BONY BODY, BUT NICE. AS FAR AS I'M CONCERNED—YOU CAN ASK ANYONE—I'M A BIT PRUDISH; I NEVER GO TO PLACES LIKE THAT. BUT THAT NIGHT I WENT ALONG WITH THE PRESIDENT OF OUR COMPANY, AND, WELL . . . [SECTION OMITTED.]

I REALLY DON'T UNDERSTAND. A GIRL WHO MADE A SATISFACTORY LIVING AND A FIFTY-YEAR-OLD MAN WITH THINNING HAIR AND NOT REALLY GOOD-LOOKING AT ALL. I HAD REASON TO LOSE MY HEAD. SHE WOULD STROKE MY BEARD WITH HER SMOOTH LITTLE FINGERTIPS. I WAS GRATEFUL, YOU KNOW. I REALLY CAN'T PUT IT INTO WORDS; IT WAS AS IF I HAD LOST MYSELF. I WAS HAPPY. IT'S NOT EVERYBODY'S CUP OF TEA, I KNOW. BUT YOU'VE GOT TO REALIZE ONE THING: MONEY WASN'T THE OBJECT. YOU MAY NOT BELIEVE IT, BUT IT'S TRUE. OF COURSE, I HELPED HER OUT A LITTLE EVERY MONTH. SHE SAID SHE WAS SATISFIED WITH THAT. HER BODY WAS ANGULAR, BUT SHE WAS REALLY A GENTLE GIRL. SHE WASN'T IN LOVE WITH ME, BUT SHE LIKED ME. SHE DIDN'T DENY IT. SHE SAID IT OPENLY. THAT'S SOMETHING FOR YOU THESE DAYS. . . . [SECTION OMITTED.]

BUT THEN SUSPICION GRADUALLY RAISED ITS UGLY HEAD. I'D GOT TO BEING STINGY ABOUT THINGS WHAT WITH WORKING THIRTY YEARS NOW AS AN ACCOUNTANT. I WAS NERVOUS; I WONDERED WHETHER I WOULDN'T BE TAPPED FOR MORE MONEY, BUT I WAS DISSATISFIED THAT SHE HADN'T ASKED ME. SHE WAS TOO STRAIGHTFORWARD ABOUT THE WHOLE THING. I DON'T HAVE MUCH SELF-CONFIDENCE, AND SO I WAS COMPLETELY HELPLESS. WHILE THINGS WERE GOING ALONG LIKE THAT, THERE WAS A LITTLE INCIDENT. WELL, NOT AN INCIDENT REALLY, BUT ONE DAY WHEN I WENT TO HER ROOM I FOUND THAT SHE HAD BOUGHT A CARPET THAT HAD COST A LOT OF MONEY. SAY, DID YOU SEE IT? JUDGING FROM THE STATE OF HER PURSE, IT WAS A LUXURY. BEING IN THE ACCOUNTING LINE, I KNEW IT. BUT I WAS EVEN

MORE AMAZED WHEN I ASKED HER THE REASON SHE HAD BOUGHT IT. SHE SAID SHE WAS PREGNANT, AND WHEN I ASKED WHETHER SHE HAD MADE THE PURCHASE TO COMMEMORATE THE EVENT, MY CHEST BEGAN TO PALPITATE IN A MANNER MOST UNBECOMING FOR MY AGE. I WAS ON THE VERGE OF TEARS. IT WAS AMAZING, FOR MY WIFE HAD HAD NO CHILDREN. NO, I SHOULDN'T SAY AMAZING. ANYWAY, IT WAS ROMANTIC, AND I FELT AS IF I WANTED TO SHOUT THE PLAUDITS OF THIS OTHER UNKNOWN ME FROM THE HOUSETOPS. I WAS IN SUCH A STATE AS TO BE CONVINCED THAT WHEN I TOLD MY WIFE, WHO KNEW NOTHING ABOUT THE AFFAIR, SHE WOULD BE HAPPY FOR ME. AH, IS IT RAINING? I HEAR IT. OH, NOW JUST A MINUTE. WE'RE GETTING TO THE MAIN POINT OF THE STORY. [A FIT OF COUGHING.] BUT WHAT COMES NOW IS ANTICLIMACTIC. IT'S TRUE, SHE WAS PREGNANT. SURPRISED, AREN'T YOU? THIS DAY SHE SAYS SHE'S JUST HAD AN ABORTION. WELL, THAT WAS ALL RIGHT. I REALIZED EVEN I DIDN'T HAVE THAT MUCH CONFIDENCE IN LIVING. BUT THE FACT THAT SHE DIDN'T SAY A WORD SORT OF MAKES A FOOL OF A MAN. I WAS SIMPLY FURIOUS. I MADE ALL SORTS OF ACCUSATIONS: SHE DIDN'T KNOW WHOSE CHILD IT WAS, OR SHE WAS FRIGHTENED, I'D SAY, TO GO ON AND HAVE IT. AH, YES, I UNDERSTOOD. SHE HAD BEEN GOT PREGNANT BY SOMEONE WEALTHY AND HAD USED THAT AS A PRETEXT TO EXTORT MONEY. IF NOT, WHERE HAD THE CASH COME FROM TO BUY THE CARPET?

MM . . . THEN DID THAT MEAN THAT I WAS THE DRAWSTRING FOR THE EXTORTION? I WANTED TO KNOW. SHE SHOOK HER HEAD AND BROKE OUT CRYING. NO, THIS HAS NOTHING TO DO WITH WHAT HAPPENED LAST NIGHT. LAST NIGHT WE DIDN'T SEE EACH OTHER AT ALL. THIS HAPPENED, LET ME SEE, ALMOST TWO MONTHS AGO.

LET ME GO ON. I'VE TOLD YOU UP TO THE POINT WHERE I HAD HER CORNERED. SHE CRIED. I KNEW VERY WELL SHE WAS NOT THE TYPE OF GIRL TO GO IN FOR EXTORTION, BUT THERE WASN'T ANY OTHER EXPLANATION FOR IT, WAS THERE? SHE DEFENDED HERSELF DESPERATELY. BUT HER DEFENSE WAS

QUITE RIDICULOUS. SHE SAID THERE WAS A HOSPITAL THAT WOULD PERFORM THE ABORTION AND GIVE HER SEVEN THOUSAND YEN TO BOOT, PROVIDED THE FETUS WAS WITHIN THREE WEEKS OF CONCEPTION. SHE THOUGHT IT STRANGE, BUT WENT TO THE HOSPITAL TO SEE. SHE WAS TOLD SHE WAS EXACTLY THREE WEEKS PREGNANT. SO SHE HAD THE ABORTION ON THE SPOT. COULD ANYONE BELIEVE THAT? THERE'S A LIMIT TO THE RIDICULOUS. WELL, I ASKED HER TO TELL ME THE NAME OF THE HOSPITAL. WHEREUPON SHE SAID SHE COULDN'T, SHE'D PROMISED NOT TO, SHE'D PROBABLY GET INTO SERIOUS TROUBLE IF SHE DID. I SCREAMED AT HER TO STOP IT, AND SLAPPED HER. IT WAS THE FIRST TIME I HAD STRUCK A WOMAN MYSELF, THOUGH I'VE READ ABOUT IT IN STORIES. ACTUALLY I DIDN'T LIKE IT. IT WAS DEMORALIZING, AND THAT DAY I DECIDED TO LEAVE WITHOUT A WORD.

BUT I WAS NOT SATISFIED WITH HER EXPLANATION. FROM THAT DAY ON I WAS TORTURED WITH SUSPICION. I WOULD CORNER HER SOMEHOW, SOME WAY SHE COULDN'T GET OUT OF. FORTUNATELY SHE HAD A BANKBOOK, A REGULAR SAVINGS ACCOUNT. AND CURIOUSLY SHE EVEN KEPT THE OLD BOOKS THAT SERVED NO PURPOSE. THIS WAS AN IMPORTANT CATCH, YOU UNDERSTAND, FOR I'M IN ACCOUNTING. I WENT UP TO HER FLAT WHEN SHE WAS OUT AND SEARCHED IT THOROUGHLY. FIGURES ARE VERY INTERESTING THINGS, DEPENDING ON HOW YOU READ THEM. THEY CLEARED UP A LOT OF THINGS. SHE HAD QUITE UNEXPLAINABLE EXTRA INCOME, AT MOST TWO TIMES A WEEK AND AT LEAST TWO TO THREE TIMES A MONTH. I COULDN'T BE HOODWINKED. I CONFRONTED HER WITH THE EVIDENCE. THIS WAS JUST THREE DAYS AGO. SHE BURST OUT CRYING AGAIN, BUT IT DIDN'T WORK. THIS WAS UNDENIABLE PROOF. BUT AGAIN SHE BEGAN HER RIDICULOUS JUSTIFICATIONS. AGAIN SHE HAULED OUT THE LUDICROUS STORY ABOUT THE INCREDIBLE HOSPITAL, SAYING SHE COULD GET TWO THOUSAND YEN EACH TIME SHE INTRODUCED A WOMAN WITHIN THE FIRST THREE WEEKS OF PREGNANCY. SHE SAID THE HOSPITAL WANTED

TO BUY ANY FETUS WITHIN THE FIRST THREE WEEKS AFTER CONCEPTION AND SHE WAS SUPPLEMENTING HER SALARY BY WORKING AS A COMMISSION AGENT FOR IT. A WEIRD STORY. I WAS MORE WORRIED THAN SUSPICIOUS. I WONDERED IF SHE HADN'T GONE QUEER IN THE HEAD. WHEN I THOUGHT ABOUT IT, IT WAS NOT IMPOSSIBLE. AS A WOMAN, SHE WAS TOO LACKING IN PASSION. THEN WHEN I PERSISTED IN QUESTIONING HER FURTHER, SHE SAID SHE DIDN'T KNOW WHAT WOULD HAPPEN TO HER IF IT WERE KNOWN AT THE HOSPITAL THAT SHE HAD TOLD ME. SHE WAS SINCERELY FRIGHTENED, CLAIMING THAT SHE MIGHT EVEN POSSIBLY BE MURDERED. THE FETUSES THAT HAD BEEN PURCHASED DID NOT DIE. THEY WERE NOURISHED BY A SPECIAL DEVICE IN THE HOSPITAL, BECOMING MORE PERFECT BEINGS THAN IF THEY DEVELOPED IN A WOMAN'S WOMB. OUR CHILD WAS ALIVE AND WELL. NOW, WHAT DO YOU MAKE OF THAT? MAKES YOU SHUDDER, DOESN'T IT? IF IT WAS TRUE, THIS WAS BIG NEWS; IF IT WAS A LIE, WELL, AS A LIE, IT WAS A WHOPPER. NOT TO BE OUTDONE, I SAID TO HER: "WELL THEN, TAKE ME TO THE HOSPITAL." IF I THOUGHT SHE WOULD BE NON-PLUSED, I WAS WRONG. SHE PROPOSED, SERIOUSLY, TALKING TO THE HOSPITAL ABOUT IT, IF THAT WAS WHAT I WANTED.

IT WAS YESTERDAY SHORTLY AFTER NOON THAT I GOT HER ANSWER. SHE PHONED ME AT THE OFFICE AND SAID THAT SOMEONE AT THE HOSPITAL WOULD COME WITH HER THAT NIGHT TO THE R-CAFÉ IN SHINJUKU AFTER SEVEN AND EXPLAIN, AND THAT I WAS TO GO THERE. I WAS SURPRISED, FOR I NEVER DREAMT SHE WOULD FOLLOW THROUGH. SINCE A TRAP WAS QUITE OUT OF THE QUESTION NOW, I CONCLUDED THAT SHE HAD TAKEN LEAVE OF HER SENSES. I WAITED AND WAITED FOR HER AT THE CAFÉ; SHE DIDN'T COME. I STILL WONDERED IDLY THROUGH MY GROWING IMPATIENCE WHETHER IT MIGHT NOT BE A GOOD IDEA TO TAKE HER TO SOME HOSPITAL FOR NERVOUS DISORDERS THE NEXT DAY. AND, WELL, YOU KNOW THE REST. I WAS NICELY TAKEN IN. NO, NO. I'M NOT TALKING ABOUT THE PEOPLE AT THE HOS-

PITAL. IT MUST HAVE BEEN A MAN. SHE WAS EMBARRASSED WITH ME, I SUPPOSE, THOUGH SHE DIDN'T SAY SO BECAUSE SHE WAS SHY. NEEDING A COVER, SHE THOUGHT UP THE BUSINESS ABOUT A HOSPITAL THAT BUYS FETUSES. IF SHE DISLIKES ME THAT MUCH, WHY DIDN'T SHE JUST SAY SO? AT THIS POINT IN MY LIFE, I DON'T WANT TO BE CALLED UNREASONABLE. SHE WOULDN'T DO ANYTHING SO VIOLENT AS TO LURE ME PURPOSELY AND HAVE ME BEATEN BY SOMEONE. THE FACT REMAINS THAT I HAVE BEEN DEEPLY HURT.

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"The real question is the girl, of course, isn't it?"

I bit my lips, restraining myself from saying it made things more complicated if a girl were involved.

"But the girl admitted being the criminal and apparently won't reverse her confession, isn't that true?"

"That's what's funny. If we believe the murdered man, she may have been somewhat neurotic."

"Was she frightened of something? I wonder."

"Maybe she's just afraid of her own shadow, or perhaps she's trying to protect the real murderer. Of course, it's always possible she really was threatened, I suppose."

"Practically speaking, the first two eventualities are more likely, but when I think about the threatening call I received a while ago, I definitely wouldn't rule out the possibility of intimidation."

"Oh, yes, the telephone call." Tanomogi's whole face twisted into a frown as if he were trying to squeeze meaning out of the notion. "Then it can't for a moment be her lover, can it. No, no. I was against the lover hypothesis from the beginning. One simply can't imagine him deliberately murdering such a good-hearted, insignificant man over her. The motive is too flimsy."

"Well then, are you saying we should accept the hypothesis that she was involved in procuring fetuses?"

Tanomogi's nod cut short the smile forming on my lips.

"There's no need to take me so literally. If we don't accept the hypothesis that a lover committed the murder, I can only suppose that Tsuchida knew something unfavorable about the murderer or had done something to him. Something so terribly bad that he had to kill the man. This information or these acts of Tsuchida's should appear in the confession he made a while ago. In the same way, even the hypothesis about the trade in three-week-old fetuses merits consideration by its very extravagance."

"If only for the sake of discussion."

"Of course, it's only for the sake of discussion. The three-week limit and the fetuses may be some kind of secret language. What about trying the girl on the machine? That's the first thing to do, I think."

"Well now, we've really got involved," I said, sighing involuntarily.

"But we've come this far, and we can't back out now. There's no other way but to face the situation."

"But I wonder if we should. I wonder whether the others won't inform the police as soon as they realize we're interested in the girl. They wouldn't hesitate to murder anybody if they had to."

"Even if we sit tight we're going to be suspected. It's just a question of time. You can't expect to win unless you make the first move. And we don't have to see her personally. We can get the committee to send a car and transfer her privately from the back door of the police station to the hospital. Interesting . . . forecasting that type of girl's future too."

I had lost my bearings, my perspicacity was gone, and I was on the verge of despair. But at once I telephoned to Tomoyasu, who was on the committee, feeling like some awkward cyclist, uncomfortable unless he kept going. Tomoyasu, who was quite delighted that important personages were interested in the project, said that we had been able to get permission

for the analysis of the body, so, he claimed, if we took this permission in its broadest sense, we could easily include the girl. He agreed to my proposal and obtained the chief's permission on the spot. To his question of how things were going, I replied vaguely that the results were rather interesting. I decided to have the girl transferred from the police station to Dr. Yamamoto's office in Central Welfare Hospital without giving out the name of the ICT. I was grateful that the transfer went smoothly, but concerned about the rapidity with which I was getting out of my depth.

Until the girl arrived at Dr. Yamamoto's office, I instructed the machine to break down further the results of the analysis of the dead man's body, dividing this information into common and special factors; that is, elements common to all human beings and elements particular to this given man. When complete, the information would come in most handy. Henceforth, by analyzing only those factors peculiar to a given person and then combining them with elements common to everyone, that would be all we needed to get a whole personality. In any case, as the data were still insufficient, I was not expecting much. But the answer came with surprising ease. The elements peculiar to a man—the variables of the personality equation—were apparently more simple than I had thought. I realized that in all probability almost all variables were reducible to relative terms, to so many physical characteristics. For the brain waves too it would be sufficient just to investigate a thousand models of some twenty types. Excellent material for presenting to the committee. I typed up a list of the variables, the physical characteristics necessary for the analysis of the elements peculiar to a man. I managed to fit them on a single piece of typing paper: a succession of ordinary medical words and elementary Japanese. This was apparently something that could ultimately be called a man's individuality.

"Look, Tanomogi, if we get hard pressed we can add a practical example to this paper, and I think we can hoodwink the committee the next time. What do you think?"

"Yes, very definitely. The committee's not really the problem. The idea of a human forecast has passed anyway."

"Not really. It still has only informal consent."

"It comes to the same thing. If you consider the committee's attitude up to now."

"Yes, I suppose so, but . . ."

I rang up Dr. Yamamoto. The girl, it seemed, had not yet arrived. When I told him of drawing up the items about the specific personality elements, he was, as I expected, unable to contain his excitement. I had him put Wada Katsuko on; I had decided to have the contents of my list fed into the electronic computer there. Tanomogi poured me some coffee. As I let the sugared liquid flow down my throat, which was smarting from too many cigarettes, I killed time for a while, musing on the rumors about the mammoth forecaster, Moscow III, we had been told, was soon to be constructed. It would apparently be charged with making an overall financial forecast for all neutral and Communist areas, covering half the world. When I thought about it, I felt wretched. In Russia, the forecasting machine towered high, a great monument of the age; but in Japan, it was merely a miserable rattrap to pursue a murderer, and the technician himself was writhing and struggling with his leg in the rat's teeth.

Gradually I began to be apprehensive. I waited and waited, but no call came that the girl had arrived. I decided to check through Tomoyasu.

"But, sir, I'm counting a lot on that rattrap. Whatever you say, it's the machine's own choice, isn't it? At any rate, the machine's logical."

"I certainly don't want to give it up."

A report came from Tomoyasu that the girl had already left the police station. But if she had not yet arrived at the hospital, there was really cause for worry.

Tanomogi was apparently anxious too, looking back and forth over the control windows and talking away at the same time.

"The problem is in setting up the program. If social data

are not admissible then they're not, that's O.K. I think our blind spot is our preoccupation with social data. If our horizons were larger, we could definitely make excellent forecasts on natural phenomena that wouldn't be a bit inferior to those of Moscow II. In short, we need to work and keep at it."

The telephone rang. Tanomogi snatched up the receiver and put it to his ear. He thrust out his chin; his eyes were set.

Obviously bad news.

"What's happened?"

"She's dead." He shook his head slightly left and right.

"Dead? Why?"

"I don't know. Apparently a suicide."

"Is it certain?"

"Suicide by poison."

"Connect up with the machine at Yamamoto's place immediately. If we analyze her essentially the way we did the man, we'll know right away the motive for the suicide and how she got the drug."

"It can't be done, I'm afraid," he replied, his hand still resting on the receiver that he had replaced. "She evidently died of a very potent nerve poison. The nervous system has completely collapsed. There seems to be absolutely no hope of any normal response."

"What a mess," I muttered, pinching out the tip of my cigarette that had scorched my fingers. I didn't even feel the heat. Although I was under the impression I was calm, my kneecap was twitching in the most alarming way.

"Let's try and get ahold of Dr. Yamamoto anyway."

The call simply confirmed that there was no hope. He said it was exceptional to have a corpse whose nerves had been so completely destroyed. In suicides by poison there is an optimum dosage. If exceeded, vomiting occurs, and the quantity of poison absorbed is diminished. In the girl's body the dose was so large as to have been ineffectual if something like a hypodermic had not been used. The poison had completely permeated her body, yet there was no sign of injection. As she had been continuously under guard all the way from the

detention cell, there had not been a moment when she could have administered an injection to herself. There was but one conceivable possibility: She had taken orally, beforehand, some drug, an opium derivative perhaps, and after paralyzing the vomiting center, gulped down the overdose. But that was too complicated.

He suggested that if we were looking for some plausible explanation, naturally we came to murder. I realized that Dr. Yamamoto was trying to draw me out, but I was noncommittal. It wouldn't do to act as if I knew something others didn't. Until I could ascertain who my opponents were, I should have to play it safe.

The moment I hung up, the bell rang again. Abruptly a hard, pinched voice struck my ear.

"Professor Katsumi? I specifically warned you. . . . That wasn't nice. As you've gone too far, another——"

I didn't wait to hear the end but handed the phone to Tanomogi: "The intimidator."

"Look here. Who is this? What's your name?" shouted Tanomogi, but the phone went silent almost at once.

"What did he say?"

"That the police were starting in earnest."

"Don't you seem to remember having heard the voice?"

"Oh?"

"Not the voice so much as the accent." There was a flash in my memory, but at once it was gone.

"I might if he calls again."

"I really don't think he's a complete stranger. He had the news too quickly. It's somebody on the inside."

"What are we going to do?"

Tanomogi, flexing his fingers, looked around himself as if searching for a hatrack. "It looks pretty much as if the encircling net is closing in. If we don't find a hole in it someplace, we're caught."

"How would it be if we dared put the whole business to the police just as it happened?"

"Put it to the police?" Tanomogi screwed up his lips. "Can

we produce evidence that our version is really what happened?"

"Isn't the girl's murder evidence enough that there's some criminal other than us?"

"That won't do. Even though we assume for the time being that the girl was killed, both Tsuda and Kimura frequented the police station freely, so somewhere they must have had the opportunity to get close to her. Since we now have the O.K. of the men on top, we are ruled out for the time being as suspects in the accountant's murder. But if we're suspected, Tsuda and Kimura will be too. After all, it rather sounds as if we're running a murder institute. A good catch phrase. Academy for murder, world-wide coverage."

"Mere conjecture. Everything you've been saying's mere conjecture."

"True. It is."

"The police nowadays think more highly of factual evidence. For example, when the girl got the poison she took . . ."

"Sir, the reason the committee has been co-operative is because they thought our machine would be helpful in finding a solution to this business, isn't it? And we thought the same thing. We were absolutely confident in its abilities. But our opponents are unexpectedly strong. Did you think that the police could break an enemy that even the machine couldn't?"

"An enemy?"

"Yes. It's clearly a question of an enemy."

I lowered my eyes and held my breath. I must not get emotional. There was no law that I shouldn't listen to what Tanomogi had to say. If there really was some enemy, then everything hadn't been simply involved happenstance.

Tsuda checked in. A suspect had been arrested, but immediately released. It was a case of mistaken identity, for the tobacconist had failed to recognize him in the line-up. One of the criminals was a short man of seemingly gentlemanly mein, he said, with close-set eyes that had a cruel glint. I de-

cided not to tell Tanomogi what Tsuda had reported. I could not suppress a bitter smile.

"Look, just what do you imagine this criminal is like?"

"I'm gradually coming round to thinking that it's not some individual but an organization."

"Why?"

"I can't say exactly. It's just a feeling."

The rain had stopped, and unperceived, night had fallen.

"It's after seven. I wonder if it wouldn't be wise to send the others home now."

"I'll contact them."

By chance I glanced out the window; by the front gate I could see a man smoking a cigarette. It was dark, and his features were indistinct. Suddenly he raised his face, and noticing me, hastily departed.

"Do you mean that this organization is the one that buys fetuses under three weeks?"

"Well, I wonder." As he spun the dial on the telephone, Tanomogi replied as if at a loss. "Incidentally, studies on developing mammals outside the womb are world-wide now."

"Development outside the womb?"

"Yes."

"Mm . . . Did you just think of that? Or were you waiting for the opportunity to bring it up?"

"No, I've had it on my mind, but I haven't had the chance to."

"That's true, you haven't. Logically, there would have to be such organizations. But let me tell you, it's all fantasy. Forget it."

"Why?"

"Because you're obfuscating the truth."

"I wonder . . . I wonder . . ."

"All right. Go ahead, finish with the telephone."

"But," said Tanomogi without even turning toward it, "I've seen rats with gills living in the water. Absolutely aquatic, but mammals nonetheless."

"Absurd!"

"It's true. They say that by developing a fetus outside the womb, they deliberately take the development of the individual creature out of its phylogenetic frame of reference, in other words, out of the normal development that governs its particular species. I have never seen the aquatic dogs, but apparently they actually exist. The difficult ones to raise are the grass-eating animals, the herbivora; carnivorous and omnivorous mammals are relatively easy."

"Where are there such things?"

"Not far from Tokyo. In a laboratory that belongs to a brother of someone you know, sir."

"Who?"

"Dr. Yamamoto at Central Welfare Hospital . . . his elder brother. You know him, don't you? It's already pretty late today, but I was thinking of inviting you over tomorrow. Of course, I don't think they've been doing any research on human fetuses yet. But we might get some kind of clue. It's sort of roundabout, but now that we've lost all sources of real information because of the two murders, what do we have to lose?"

"Stop it. I've had my fill of this detective game. There's a suspicious fellow keeping watch on us out in front. If he's not from the police, he's probably an assassin."

"Is there, really?"

"Look for yourself."

"I'll phone the guard and have him check on it."

"You might as well phone the police while you're about it."

"Shall I say some assassin's waiting for you?"

"Say what you will," I said, rising from my seat. I changed shoes and took up my briefcase. "I'm going home. When you've contacted the others, you'd better go too."

I was unduly irked. But it was irritation at an unspecified opponent; and though I wanted to settle matters, I had no idea where to begin. It was not that there were no clues; there were in fact too many. They contradicted each other, and I didn't even know which one to follow up.

As I went my way, there was no indication I was being shadowed. At the noise of the outer door being opened, my wife at once thrust wide the inner one to the vestibule. For some reason she had been looking forward to my return. Without waiting for me to remove my shoes, she addressed me abruptly in a low, rasping voice.

"What happened at the hospital today?"

She was dressed in street clothes; either she herself had just returned or she was about ready to go out. And yet, standing there, her hair against the light, she was terribly agitated about something. I could thus make nothing of what she said. As far as hospitals were concerned, the only one on my mind was the room for electronic diagnoses at Central Welfare that had become the setting for my difficulties. But how had my wife known about this? And supposing she did, how did it get to be the object of her concern?

"What do you mean what happened? Did something?"

"Oh dear . . ."

She spoke in such a cowering voice and in such a pathetically reproachful tone that I involuntarily stopped in my tracks. In an inner room I could hear my eldest son Yoshio laughing intermittently and irritatingly along with the music on the television. I awaited my wife's next words. I even anticipated that she had caught a slip I might have made, however improbable that was. I had been unaware of having mentioned anything about the Yamamoto laboratory for electronic diagnosis. But apparently she was waiting for *me* to speak.

After a short, unnatural silence, she at length spoke out.

"I did as I was told. You're really irresponsible, forgetting even that you telephoned. Even if you did, it's still disgraceful you didn't come and get me."

"Telephoned? I . . . telephoned?"

My wife looked up in surprise.

"But you did, didn't you?"

"I'm asking *you*. What telephone call are you talking about?"

Her slender throat swelled before my eyes. "But you did call. They said so at the hospital. You did, didn't you?"

My wife was utterly confused. That was to be expected. She was angered and excited over something of which I was completely ignorant, but her agitation became entirely groundless in view of the fact that I had no idea what it was all about. I pieced together her overwrought, garbled words, the gist of which was this:

Around three o'clock, soon after Yoshio returned from school, my wife had received a telephone call from the family gynecologist. He practiced in a modest general hospital about five minutes away by bus. The director was a friend of mine. (When she told me this, I remembered: Just a few days ago, my wife had received a positive diagnosis of pregnancy—having experienced one extrauterine pregnancy, she was very nervous about her condition—and we had discussed what to do. She had asked whether to go ahead and have the child or to have an abortion. However, I had given no real answer. I was right in the midst of the crisis over the machine.) The purport of the call was that I had left a message that she was at once, that very day, to have a D and C. She had hesitated. Evidently she had even thought of refusing. She immediately called me at my office, but I was not in. (Around three I was doubtless at Tomoyasu's office negotiating the take-over of the body. Whoever took the call was so taken up with the business at hand that he had surely forgotten to give me the message.) Despite her reluctance, she had gone.

"Then did you have the abortion after all?" Doubtless my involuntarily reproachful tone was meant to cover up my inner worry.

"Yes, I did. I couldn't help myself," she continued defiantly, following me up to my study on the second floor. Yoshio called a disinterested greeting down the corridor. "I intended to discuss it with the doctor one way or the other, but he wasn't in. Even though he himself had asked me to come. I was provoked and decided to come right home. Then, just as I was leaving, someone who looked like a nurse with a mole on her right cheek came after me. She said that the doctor would be back soon and would I please take this medicine and wait in the waiting-room a while. It was a bitter powder wrapped in red paper. I wondered if the red paper meant it was some poison. Anyway it was something strong like that, I think. After a while I felt very funny, as if my whole body was asleep except for my eyes and my ears. After that . . . I don't remember. It's all unclear, as if I hadn't seen things with my own eyes. But I think I was supported on both sides and put into a car and driven to another hospital. One with a long, black corridor. The doctor was a different one, but he said my own doctor knew all about it and so they performed the operation then and there. I didn't even have time to think. And then, I don't know why, but when I left to come home I was handed a lot of small change."

"Small change?"

"Yes. Didn't *you* leave it?"

"How much was it?" I said, involuntarily rising to my feet.

"Seven thousand yen. Though I don't know how they got that sum."

"If I remember, you were less than three weeks pregnant, weren't you?" As I tried to pick up my pack of cigarettes, I knocked over a glass of water that had been left undrunk from the night before.

"Yes, apparently it was just about three weeks."

The spilled water ran under some books I had piled up. "Get something to wipe this up with." Seven thousand yen . . . the three-week pregnancy. A stiffness spread all the way from the nape of my neck over my back, as if I had been mountain climbing with a hundred-pound rucksack. I avoided

my wife's eyes as she looked suspiciously up at me while she sopped up the spilled water with old newspaper. "Now this hospital, just which one was it?"

"I really don't know. I took the car they called for me and came right home."

"But you remember the place at least, don't you?"

"Well, let me see. . . . It was rather far away, I know. I think it was quite far to the south, near the ocean. I dozed on the way." And then she added inquiringly: "But then, of course, I suppose you have an idea, don't you?"

I neither affirmed nor denied. I did have a special clue although not in the sense my wife thought. In any case, saying something at this point would incite her to even more questions, and I would have to continue answering them. When I regained my composure, I thought I had grasped the situation in part if not completely; but in reality I had not understood anything at all. I was, in fact, gradually getting so confused that I could comprehend nothing. Suddenly I was so angry at the unpermissible insult of having my own wife caught in the trap in which I myself was entangled that my field of vision became severely constricted.

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I went downstairs and telephoned. My wife tried to make Yoshio turn off the television, but I purposely let him go on listening as he was. What a mess if I had got my wife mixed up in this fantastic business.

First I telephoned to my friend's hospital and asked them to find out for me where our regular gynecologist lived. They gave me his home number. He was in. He appeared quite confused by my questions and said that of course he knew nothing about any message from me and that furthermore he had not summoned my wife. Besides, he had arranged to make a house call at precisely that time yesterday, he said. To

be on the safe side, I asked him if he knew anything about a woman, apparently a nurse, who my wife said had given her medicine. He replied that he knew of no nurse with any mole on her cheek. Apparently the worst had materialized, just as I had secretly feared it would.

As I dialed the Institute number, I felt a pain in my breast as if my fluttering heart had fallen into my stomach. Clearly the origin of this pain lay in the fact that the train of events that had suddenly occurred seemed quite to ignore the general rule that events always develop in the direction of the greatest probability.

Seven thousand yen . . . three-week-old fetuses . . . development outside the mother's womb . . . mice with gills . . . aquatic mammals.

Happenstance is always fortuitous by the very fact that it occurs apparently without a cause—outside of soap opera. The man's death, suspicion, the girl's death, the strange telephone calls, buying and selling fetuses, the trap in which my wife had been caught—the chain reaction that had started from pure happenstance proceeded from one event to the other and had pre-emptorily become a single chain coiling round my neck. I was being pursued, as it were, by a madman with neither purpose nor motive. It was intolerable to my rational sense.

I phoned the guard on duty and inquired whether the lights in the computer room were still on or not. He coughed, clearing his throat, and then responded hoarsely that the lights were out and that apparently no one was in. I made a cheese sandwich, washed it down with beer, and prepared to leave at once. My wife stood there confused, scratching with the fingernails of her left hand the clenched right one, which she held under her chin. Since she assumed that I was only irked at what had gone wrong at the hospital, she was doubtless now feeling guilty as a reaction to her first excitement.

"Why don't you drop the whole thing? You must be tired."

"Were the seven thousand yen in some kind of envelope?"

"No, just loose cash."

I restrained her from setting off to get the money, and put on my shoes.

"When are you going to have a little time? I've something I want to discuss with you . . . about Yoshio. He's been going to school, but occasionally hasn't been going to classes, they tell me. The teacher spoke to me about it."

"Forget it. He's still just a child."

"Can we go to the shore day after tomorrow, Sunday?"

"Yes, if the committee comes to some decision tomorrow."

"Yoshio's looking forward to it, you know."

One after the other I crushed fragile eggshells within my heart; and as I did so, I went, saying nothing. In any case, they were only fragile eggshells. Even if I hadn't broken them, someone surely would have. Rather than being nervous about when they would collapse, I should feel all the more satisfaction for having broken them myself.

As I went out, I could hear the sound of footsteps crossing the street and hurrying up the lane facing the gate. I set out on my customary way in the direction of the main street, whereupon the footsteps left the lane and followed me, pretending casualness. Quite definitely the one who had been loitering in front of the Institute a while ago. Abruptly I turned around and began walking in the opposite direction, straight toward my shadower, who took to his heels in confusion down an alley. Compared with shadowers I had read about in novels, he was frightfully inept. A rank amateur. If he was not, perhaps he was purposely trying to underline his presence. I at once set out in pursuit.

I was somewhat faster than he. I had not run for a long time, but my school training stood me in good stead apparently. Besides, the fellow hesitated an instant at the next cross street, wondering which way to go, and I shortened the distance between us even more. Catching up with him on some gravel in about a hundred yards, I slipped my right hand through his left arm and pulled him up. He tried to escape, but lost his footing and fell down on one knee. I was on the verge of falling myself, but managed to keep myself upright

without loosening my grip. We wrestled, silently, breathing hard, each of us trying to gain the advantage. In the matter of running, the chances of winning favored me, but in the ability of handling my body, I was, as I knew, no match for him. Twisting his body, he suddenly went limp and plunged his greasy head into my stomach. I staggered back. I felt, my breath gone, like a piece of lead.

When I recovered, I heard the distant footfalls of the running man. Apparently I had lost consciousness a bare instant. But I had no strength to pursue him; the nauseous stench of his pomade clung to me. When I stood up, the area below my ribs ached as if something had been ruptured inside. Crouching down, I vomited, throwing up a mixture of beer and stomach acids.

When I had cleaned myself off, I walked to the main thoroughfare and found a cab. I had it wait for me in front of Tanomogi's flat at Takata no Baba. I inquired of the janitor, but Tanomogi was not there. He said that no, he had not gone out, but he had not yet come home. I had the cab take me at once to the Institute.

The guard, twisting the towel he had tied around his neck, was terribly nervous when he caught sight of me. He wore nothing on the upper part of his body.

"Now look here. The lights *are* on."

"Oh . . . yes, I see they are. I'll just ring up and check. Probably they went on while I was out in back taking a bath. Just a minute, please."

Paying no attention to him, I entered the Institute. A dead silence had fallen over the building. The darkness enfolded me and every step I took made the silence ring like a somber sheet of foil. At length a light shining through a door bespoke someone's presence. The only keys were mine, Tanomogi's, and the extra one in the guardroom. Tanomogi might just be working late (in which case the guard had lied to me for some reason). Or had he come back to get something he had forgotten? Either way, I was once again brought face to face

with still one more happenstance. But surely I had somehow half anticipated catching Tanomogi by coming here. I could not really explain why, but I did have that feeling. Tanomogi would doubtless greet me by saying something to the effect that he had come here thinking to see me. Would it be the truth or a lie? I did not know, but anyway as he spoke he would probably show his affable, smiling face. I mused that I should never have the courage to answer with a smile. I didn't want to think like this, but the impression was forming that I could no longer give in so meekly to Tanomogi as I had been doing. Though it was unreasonable to suppose that he was conspiring with the enemy against me, it was a very singular happenstance that we had decided to take the accountant who was murdered as the test case for our prediction. And it was quite incomprehensible that from the beginning I should have taken as apparent fact the concatenation of happenstances like this trumped-up story. At least he apparently knew something more than I and was looking into the future a step ahead of me. (It was he who had introduced such extravagant ideas as water mammals and the like, thus backing up the hypothesis that fetuses were being sold.) Otherwise the whole thing would have been considered merely the fantastic notion of a kindhearted accountant. At the time Tanomogi had apparently wanted to say more; but it had seemed too ridiculous; and I had left, perversely, without hearing him out. But now was no time to be obstinate; I wanted something for a clue, anything.

20

The door was unlocked. Repressing the pain in my ribs, I turned the knob and thrust it open in a single motion. Surprisingly, cool air struck my cheeks. But I was even more astonished at the person with the hard smile facing me, her hands on the chair before the machine. It was Wada Katsuko.

Wada was smiling. But her expression changed to one of surprise. She had apparently been expecting someone else.

"It's you, is it?"

"Oh, you surprised me."

"I'm the one who's surprised. What have you been doing here so late?"

Taking a deep breath, Wada turned on her heels and sat down lightly on the chair. I wondered if she herself were aware of it: She appeared quite unconcerned, whereas I considered her actually a most expressive girl.

"I'm sorry. I had an appointment to meet Mr. Tanomogi."

"Nothing to worry about. Have you been making appointments to meet here?"

"There's been a very strange misunderstanding," she said, turning her eyes away and shaking her head slightly right and left. "We really intended to speak to you a lot sooner, sir, but . . ."

So it was true. So terribly true. A bitter, involuntary laugh welled up within me.

"All right, all right," I said. "Don't worry. Was he supposed to come here?"

"No, he was supposed to be *waiting* here. But when I came over to see, everyone had apparently left. I went home for a bit and then to his house, but he wasn't there either."

I was suddenly overcome with a flesh-tingling fear.

"But the guard just called, didn't he?"

"He did, but since he said the professor had come, I took it for granted it was Tanomogi," she replied, smiling self-consciously—perhaps she did not apprehend the significance of my change of tone.

From the guard's standpoint, of course, Tanomogi was also Professor. "But the air conditioning in this room is pretty high. It looks to me as if the machine's been running until a very few minutes ago."

Wada looked abashed and ducked her head. "That's why I decided to wait. I thought he intended coming right back."

It made sense. There was nothing to be suspicious about. I

was a little too jumpy. Even the guard's confusion was explainable: He had secretly aided and abetted the assignation. Love. If it was love, there was nothing to be concerned about. An ordinary case of love. There was nothing more certain than this everyday sense of continuity.

"But I hadn't noticed that things had gone so far between the two of you."

"I didn't want to stop work here, you see."

"But it's certainly all right for you to be earning a living together, isn't it?"

"It's complicated. For all sorts of reasons."

"Mm . . . Maybe so."

I didn't really understand the "all sorts of reasons," but I felt relieved and experienced the sensation of wanting to laugh.

"While we're about it, I wonder if you'd use me as a sample case and forecast my future."

That would be interesting. If she had been a sample case, I would have known about the affair with Tanomogi and been able to avoid all this fuss.

"I'm serious," she said, running her long fingernails slowly around the edge of the machine. "There's no rhyme or reason why someone should have to go on living."

"Come, come. It's usual enough . . . with someone."

"By 'with someone,' I suppose you mean getting married."

"Oh, anything you like. It's not that we live because everything can be explained. We want to explain things because we're alive."

"Everybody talks like that. But I really wonder if one would want to go on living after having his future told."

"Are you saying you want to know your future expressly to put the proposition to the test? That's dangerous talk."

"Well, what about you, sir?"

"What do you mean?"

"Since you don't know what your future will bring, you can live now. If living is all that important, how is it possible to abort children who should be born?"

I swallowed hard and shrugged. Back of my ears there was a sound as of something breaking. Wada had spoken in a terribly casual voice. Of course, it was the combination of happenstances. I said: "There's no reason to treat something that has no conscience yet the same as a human being."

"Legally, no, I suppose," she continued in a clear, cutting tone, "but it's rather inconsistent to say that it doesn't matter if you kill a child still in the womb in the ninth month but that it won't do to kill one born prematurely. I should think that tolerating such an explanation shows a lack of imagination."

"If you go on thinking that way, there's no end to it. Carry that argument out and it would mean that a woman who had the opportunity of becoming pregnant and who did not take it and a man who had the opportunity of causing that pregnancy but who did not were both ultimately murderers, indirectly." I gave an unnecessarily loud laugh. "Even now as we prattle on like this, we're possibly committing murder."

"Maybe so," she said, shifting in her seat and looking up straight into my eyes.

"Maybe we're duty-bound to save these children."

"Yes, maybe we are," she agreed without so much as a smile.

Embarrassed, I walked over to the window as I placed a cigarette between my lips. I experienced a strange, feverish feeling, as if the lubrication between my joints had drained away.

"You're a dangerous girl, you know."

I could hear Wada standing up. Motionlessly I waited for something. Then, unable to endure the silence, I turned and looked around. She was standing stiffly upright, a hard expression that I had never seen on her face. I tried to say something, anything; but as I was searching for the words, she spoke: "Please give me a direct answer. I'm standing in judgment on you sir."

I laughed . . . meaninglessly. Then she too smiled faintly. "You're a very strange girl."

"This is a trial," she said, reassuming her serious expression. "Now, you don't consider the killing of a fetus a crime, do you, sir?"

"We'll never get any place this way."

"Then, sir, you really don't have the courage to put your own future to the forecasting machine."

"What do you mean by that?"

"Oh, nothing. Let's drop the subject."

Suddenly the brakes were applied, and my heart flew out of my body with the momentum. Wada looked up at the ceiling with big, wide-open eyes and nodded knowingly. If her expression had not been so innocent, I would certainly have cried out.

But she looked at her watch as if nothing had happened, and sighed. Following the example, I glanced at my own. It was 9:05.

"He's late, isn't he. Well, I think I'd better be getting home."

She raised her eyes and smiled and then quickly turned her body in a movement as if she were dipping something from the air, and in the same stance suddenly left the room. I was taken unawares and did not know what to do. I could only watch her from the window as she spoke to the guard and went unhesitatingly out the gate.

I tensed my legs and stretched. It was an expression of my feeling that I would not be toyed with further. Incredible that Wada should be so ill disposed to me, that she should adopt such a strange attitude toward me. Taken at face value, it was doubtless nothing at all. Wasn't it rather that I was the one who was so troubled and bewildered because I thought it strange? I must calm myself and consider things objectively. I must establish priorities of what had to be done for now, and clearly distinguish between what was important and what was not.

I laid out some paper on the work table and traced on it a large circle. I attempted to draw another, smaller circle inside the first, but as I was doing so the lead in my pencil broke, and I could not completely close it.

I was on the point of leaving any number of times, but I changed my mind and continued waiting. Surely when Tanomogi knew I was here, he would come. It was about that time right now. Or could it be that he was deliberately provoking me? No, I must stop tiring myself with purposeless conjecture.

Twenty minutes . . . forty-five . . . fifty minutes. Finally, at 10:10 the telephone rang.

"Sir? I've just seen Wada. . . ." Far from sounding abashed, his voice was even sprightly. "Yes. I've something important to show you, sir. If you want me to, I'll come to your house. . . . I see. . . . Then I'll be right over . . . within five minutes."

I composed myself as I stood waiting by the window. Standing motionless looking into the distant night, I went over again and again the first words I intended to utter when I saw Tanomogi. A thin, white membrane seemed to be stretched between the sky and the rooftops. Beneath lay the elevated station. There myriad experiences and lives jostled each other like waves. It was like the sea, which, seen from a mountaintop, appears calm. There is always order in the distant view. No matter how strange the happening, it can never project from the frame, from the order which this distant view possesses. A taxi stopped, and Tanomogi got out. He looked up at the window and waved his hand. It had taken him precisely five minutes.

"We missed each other all around."

"Mm. Sit down," I said, indicating the chair Wada had used. I remained standing as I was, with the light behind me. "I've been waiting a long time, you know. Did you miss Wada?"

"No. To tell the truth, I was out all along. I was kept waiting at the place I went to."

"I see. All right," I said, controlling myself so that my feeling of tenseness would not show in my voice. "That may well be, I suppose. I'd like to have the machine record our conversation together now."

"What do you mean?" Tanomogi leaned his head to one side as if he did not understand, but he did not look especially flustered.

"I'd like to re-examine quite carefully the events that have occurred since this morning."

"A good idea," he said, nodding curtly and shifting eagerly in his seat. "I was just on the point of attempting to put them in some sort of order myself. Of course, I thought that you wouldn't feel very much like it. I was a little worried. You remember when you were leaving for home you were pretty upset."

"Yes, I guess I was. What was it we were talking about then?"

"You were saying that you had had enough of playing detective."

"Oh yes, so I did. Let's start right there. Turn the switch."

Tanomogi leaned over the power controls and uttered a cry of surprise.

"It's been left on! The power light's burned out. That's why I didn't notice it. Amazing!"

"What about the connection to the recording?"

"There's a hi-fi mike."

"Then we've been recorded all along?"

"Apparently," he said as he skillfully opened up the machine with the screwdriver provided for that purpose, closely following the knobs and protuberances of the intricately entwined copper nerve fibers. "Mm . . . You know, Wada persists in maintaining that I absolutely was here until a little while ago. She says the proof is that the air conditioning was going. I thought what she said was strange, but now I understand."

I was disappointed. I was more dismayed that he had dodged me so effortlessly than suspicious that this too might

have been planned. When he had answered that he had been out all along, I was secretly delighted, thinking I had caught him in a contradiction: the business of the air conditioning. But with the vanguard of the army beaten, one is helpless. There was no use grumbling.

"Well, first of all, let's proceed with a recapitulation of the situation," I said.

"Go ahead."

"In the first place, we picked out a man to serve as a sample case to present to the programming committee. The choice was absolutely unplanned. It was, in fact, pure accident. But the man was suddenly killed by someone. Then the possibility naturally arose that suspicion might fall on *us* since we happened to be at the scene of the crime."

"Most precisely on me."

"The man's mistress was tentatively taken to be the criminal. But the police were evidently not satisfied. Were they really dissatisfied, or did someone—an accomplice of the murderer—drop a hint with the purpose of frightening us? These points I find most open to question."

"I agree."

"One way or another we were cornered. If we did nothing, sooner or later the hand would fall on us. We ventured to 'analyze' the man's corpse in order to provoke the real criminal. If successful, we would have obtained excellent results as our first experiment. But the analysis only showed us that the criminal was someone other than the girl, and the body told some far-fetched story about a fetus broker. Furthermore, we got the bonus of some threatening phone calls."

"We've got to pay special attention to the speed with which the caller got his information."

"Right. And also I somehow feel I've heard that voice before."

"You still can't remember?"

"No. It's on the tip of my tongue. Anyway it's definitely a person somewhere around us."

"In my opinion it's probably someone to some extent knowl-

edgeable about the forecasting machine. That's precisely why, next, when we were on the point of analyzing the girl suspect, he—or they—sensed danger, and it was necessary to kill her before she was delivered to us. Even so, I don't understand how the death of the man we chose so arbitrarily developed the way it did, involving someone on the inside."

"Of course, we can claim it was absolute happenstance. If it was, the trap set for us would in the last analysis be only for the criminal's own self-defense. But he didn't know about us. Supposing everything was linked together some way, then the significance of the trap would be much greater."

"What do you mean?"

"Perhaps the object is to discredit the machine itself."

"I don't get the point."

"All right, let's go on. At any rate we have lost all clues."

"Ostensibly, yes."

"But our enemies haven't yet relaxed their efforts for all of that. The threatening phone call was repeated, and a lookout was posted. Then the amazing story about aquatic mammals seems to have occurred to you. As far as I was concerned, I felt like giving the whole thing up."

"Actually, the aquatic mammals . . ."

"Now let me go on. However, when I got home I found a surprising situation. During my absence my wife had been forcibly curretted."

"Really!"

"She was less than three weeks pregnant. Furthermore, when she came home they gave her seven thousand yen. Now just a minute, that doesn't mean that I consequently accept the hypothesis about the buying and selling of fetuses. Maybe someone dissatisfied with mere telephone threats thought this up as a more efficacious means of intimidation. The clever rascal passed out a lot of little lies to cover up one big one. I suspect that he was trying to divert my attention with the seven thousand yen to the most meaningless elements that came to light in the analysis of the dead man. All right, let me finish. His aim was simply to wear me down psychologically.

The purpose is of little concern. What is important is the fact that the one or ones who hatched this disgusting business knew the contents of the murdered man's analysis. That's true, isn't it? Because if we hadn't found out the business about the fetus broker from the corpse's confession, the seven thousand yen and the three-week time element would never have made them threaten us. They knew that. Don't you think they must have? Now, there are only two people in the whole world who know the contents of the analysis. Only you and I. You can't deny this, can you?"

"No, it's true enough." Tanomogi paled. He lowered his eyes and sat for some time motionless.

"Of course you can't. Because therein lies the real truth."

"What's the real truth?"

Slowly I turned toward Tanomogi. "You. You're the murderer!" I cried, detaching each word as if I begrudged it and pressing my index finger against his forehead.

But contrary to my expectations, he neither collapsed nor was he excited. He could not conceal his tenseness, but he looked me directly in the eyes, unexpectedly composed, and said: "But do I have a motive?"

"If we assume for the moment that you are the murderer, a motive is simple to find. For instance, I met the murdered man quite by accident, but he might have been the one you were after from the beginning. That day we had no particular goal in mind, and we were exhausted too. It wouldn't have been all that hard to get me to the café and bring my attention to the man you had previously lured out with the Kondo girl. You were very successful. You trapped me beautifully. You planned for me to fear the police, yet you managed to avoid suspicion yourself by pretending to co-operate in the pursuit of the criminal. The various props were perfect. What a pity to find yourself exposed by what you least expected. You counted too much on lack of motive."

"Supposing I had managed not to be discovered, what do you say would have happened then?"

"It's obvious, isn't it? You were waiting for the chance to

publish a faked forecast that I had been cornered and had said that the murderer was the girl who committed suicide."

"An interesting conjecture. So what do you propose doing now, sir, with this conjecture in mind?"

"I can do nothing but report you to the police."

"Can you? Without explaining that I have no motive?"

"Motive?"

"The motive is still unexplained, I think."

"You'd better see a lawyer about that. Anyway, I think we'll take legal action and put you on the machine. But I must say, you've stirred up a pretty business." Suddenly my strength deserted me and I was overcome by a sense of collapse, as if I were submerged to my nose in cool vapor. "To think that you would do such a thing. And I had such hopes for you. It's incomprehensible, it's a terrible thing you've done."

"What did Wada say to you when she was here?"

"Wada? She didn't say anything particularly. She seemed quite involved with you and concerned about you. Yes, unfortunately you've even ensnared her. Well, it's too late now; what's done is done."

Tanomogi sighed, shaking his head vigorously. "It was an interesting conjecture, rational, very much like you, sir. Except for one point, a fault quite typical of you."

"A fault?"

"If fault's not the word, then let's call it a blind spot."

"Don't prevaricate. The machine's taking this all down."

"Quite true. Then shall we have it hand down a verdict?" Simply shifting in his seat, Tanomogi turned toward the machine and spoke into the mike as he manipulated some buttons.

"Prepare for verdict."

A blue light went on. It was the signal that preparations were completed.

"Is there or is there not a fault in the conjecture just presented?"

A red light went on, signaling the presence of a fault.

Tanomogi connected the speaker and asked the question again.

"Indicate the fault, please."

In the twinkling of an eye the machine replied through the speaker: "There is an error in the establishment of the first hypothesis. Anyone in possession of information about the buying and selling of fetuses would have foreseen that this commerce would come to light in the analysis of the dead body."

"Why, that's the voice on the telephone!" I cried, involuntarily seizing Tanomogi's arm.

"But it's your own, sir."

Ah, it was indeed. When we had provided the machine with a voice, we had simply used mine. There was no doubt, it was the one I had heard on the phone. It was natural I should remember having heard my own self. Someone had used the machine and made a tape of the voice. I cried out in triumph as I pulled at Tanomogi's arm. I had at last unmasked the fraud. The slippery fellow. A real trickster. But you never win by playing tricks. The crime is always punished by its commission.

Tanomogi remained motionless, his face turned away, making no attempt to contradict me. With bated breath he waited until I should fall silent, and then said in a small, almost apologetic voice: "But this isn't proof, is it? A voice doesn't have the individuality a face does."

I choked up and tears came. I drew my hand back to wipe them away. Avoiding me, Tanomogi crossed to the other side of the chair in two or three steps. "So, as the machine has just said, all your ideas are built on a single blind spot, on the *idée fixe* that the buying and selling of fetuses is no more than a fantasy of the dead man. Even your impeccable reasoning you went to so much trouble with completely collapses if you insert a question mark after this blind spot. Of course, there's no real reason why even I should know what the actual nature of this commerce is. However, since I couldn't very well go looking for clues at the scene of the crime under the

nose of the police, there was no other way than to go the roundabout road and take these hints as clues, was there? Of course, it's only a hypothesis. But if we assume, for argument's sake, that the buying and selling of fetuses is really taking place, we can get just as interesting results as when you presumed me to be the murderer, don't you think? For example, according to the bulletin put out by the Welfare Ministry recently the number of interrupted pregnancies is about the same as that of children born. Apparently over two million a year. Now if we assume that the buying and selling of fetuses is a probability, then it is quite believable that it is being propagated by a fairly large-scale organization. If that is so, there is every possibility that the man we chose for our sample case was connected with the organization, though we had the impression our meeting was accidental."

"Ridiculous. A pretty story for someone with time on his hands."

Tanomogi, biting his lip and moving his head as if nodding to himself, drew from his pocket a card-sized photograph and calmly placed it on the chair.

"Just look at this. It's a picture of an aquatic dog. In point of fact, I've been at Professor Yamamoto's brother's laboratory until just a while ago. I went to request permission to observe and study their work, but while I was about it I got this for reference."

It was indeed a picture of a dog swimming around in the water. His head dipped down, his front legs were bent and his hind ones extended. A little line of air bubbles flowed from the neck along the line of the back.

"A mongrel. You can see some dark lines there where the neck thickens. They're gills apparently. The ears look strange because of the picture. After birth, they apparently have to resort to artifices, but the form's no different from a normal dog. The eyes have definitely been modified, you see. Along with the modification of the lungs, changes have occurred in various glands; since the tear glands atrophy, transformation of the eyes is unavoidable, they say."

"It's a synthetic monster they've put together by operations, of course."

"Not at all. A real animal that actually had gills like this would be as big as a shark. Can you conceive of grafting a dog and a shark? This dog has been made possible by the new technique of planned evolution that begins at the fetal stage. If you would just see it for yourself . . ."

"I see now. You're saying that the trade in fetuses is to produce humans capable of living under the water, aren't you?"

"The body of a three-week-old fetus is barely an inch and a quarter long. It's not very good business to pay out seven thousand yen for something like that and then use it for food."

I gingerly picked up the repulsive photo, and as I looked at it, I had the impression that what my eyes saw could not really be. I felt as if it were quite untrue that outside this room were streets and that in those streets people were living.

"You mean they'll let me observe?"

"Yes, I had a hard time arranging it," he said, leaning forward, "but they agreed, providing you don't divulge anything."

"But it doesn't hang together. Supposing for the moment that this trade in fetuses is true, then the accountant was killed because he was trying to worm the secret out, I imagine. How would such a terrifying secret organization ever even permit us to get near?"

"On the contrary, they may have their own reasons."

"Reasons? Ah, fine reasons indeed. If you want my frank opinion, they'd never give permission if they dreamt I might get wind of their setup. The fact that they did give it means that it's useless even going there, doesn't it?"

"Sir," Tanomogi said faintly, swallowing his saliva, "I think this may be the last chance."

"You mean it's going to be closed down?"

"I'm not talking about the visit itself. I mean it may be *your* last chance, sir."

"What? Oh come . . ."

"Well, if you say you really don't want to, I'll give the whole thing up, but I think you ought to go."

What was this? I remembered having heard someplace before precisely the same conversation. Yes, they were Wada Katsuko's very words a little while ago, if I remembered correctly.

"This dog, can it catch fish?"

Tanomogi's eyes sparkled. "Oh, yes, all kinds. They're training it now apparently. If we went over there, we could probably get them to show us what it looks like."

"It's strange, your being so cheerful when we're about to set off into enemy territory."

"Me? Well, if things go well I'll be cleared of suspicion, won't I?"

"Have you ever considered that by going there we might not be able to come back again?"

Tanomogi laughed.

"Well then, we'll just leave a farewell note."

22

"In any case, let's adjourn for tonight. I'm exhausted," I broke off in a weary voice, drawing away the two fingers that I had placed against the desk. The tips, which had whitened and spread with the pressure, did not regain their shape for some time.

"But," said Tanomogi in his customary voice, still tenacious, "may I remind you once again that if we go at all, it would be best to get it over tonight, don't you think?"

"What?"

"Going to see the aquatic mammals."

"Are you joking? It's already close to eleven."

"I realize that. But time is important now. There are only three days left until the meeting of the programming commit-

tee, and if we're going to present an agenda to Mr. Tomoyasu in advance we've only got all day tomorrow."

"True enough, but won't it be a nuisance to the people at the lab if we come so late? By now there's probably no one around."

"Yes, there is. Professor Yamamoto's the head, and he deliberately moved his night duty up to tonight."

"The head of a laboratory on night duty?"

"It's like a hospital. They're dealing with living things, you see. You'd understand if you'd just go and see. Apparently they're rather more busy at night."

"Now see here," I said, lighting a cigarette I did not want and putting one arm on the swivel chair. I doubtless intended by changing my posture in this manner to display to Tanomogi, and to myself, a relaxed state of mind. "I think you're being something less than candid with me, frankly speaking."

Tanomogi pursed his lips. He obviously wanted to say something very much, but he remained silent.

"I've a number of things I want to say," I continued. "I'm not satisfied with matters, not only theoretically but also from the standpoint of my own feeling. I'm damned unhappy, if you'll excuse the expression."

"Yes, I think I understand."

"Let's talk about what we definitely know and stop this experimenting. For one thing, we're cornered. And we're bound hand and foot by something we don't understand. Since we don't know what our adversary's objectives are, there's no way of counterattacking. Who's going to gain what by putting us in a position like this, for heaven's sake?"

"I should imagine it's because they're afraid of the forecasting machine."

"Impossible. They know positively nothing about it, do they? They killed the girl and didn't leave a clue. Besides, they're not the slightest bit afraid."

"We can't draw back. In the first place the committee is expecting the exposure of the real criminal and would never consent."

"On that point alone, we could probably hoodwink them with the analysis of the personality factors of the dead accountant."

"Well, I don't know. The police in the highest echelons know that we're working. They're adopting a wait-and-see attitude precisely because they hope we'll come up with something, I imagine, and so they're co-operating with us. Suppose we're unable to find the real criminal. Our situation will be awfully precarious, if by chance they should come to suspect us. An impossible situation, absolutely impossible."

"All right, let's assume it's as you say. But it's credible, isn't it, that the gang's trump card in intimidating us—assuming there is a gang—lies in suppressing the eyewitness and in turning the eyes of the police on us? If they're so inclined, they can be sure we'll be suspected."

"Cut it out. Your thinking like this is precisely what they want. The fainthearted always get caught. With a wolf outside, they may know all the time they'll die of hunger by doing nothing, but they end up expiring like rats in a hole. No, I'm sorry, I'm furious with this whole situation."

"It doesn't make any difference. I know all about faintheartedness myself. But since you were kind enough to speak out as you did, it just occurred to me that we'd feel a lot better if we went to the police and told them absolutely everything, wouldn't we?"

Tanomogi looked up and stared at me, biting his lip in amazement or distress. "I dare say someone would be delighted," he mumbled. "A lot of our colleagues would like to see us chased out of here and the place made into a mere subcenter specializing in electronic brains. Besides, you won't recognize the fact that buying and selling of fetuses is taking place, so you think that even your wife's being caught in the trap is a distracting smoke screen. In fact, the organization is not concealing its existence at all, it's really parading it openly. This," he added, drumming lightly with his fingertips on the edge of the machine, his voice suddenly lowering, "can be taken as a warning that they are prepared to use force against

you at any time. To cite two cases in point: The man was killed and the girl died."

"Well then, what are you saying we should do?" At some point—I myself was unaware when—I had walked around through the narrow space between the machines.

"There's nothing left for us to do but find out what the trap really is." When I did not answer, he pressed me further. "What about putting the solution of the situation to the machine?"

"That's enough!" I was shocked in spite of myself and angry at the fact that I was. It seemed as if I had been anticipating his words for some time. Yes, I had, but I was nonetheless afraid of them apparently.

"Why? You're saying you don't trust the machine, aren't you?"

"The machine is theoretical, it's not that I don't trust it."

"By that you mean . . . ?"

"I mean that this is not worth-while asking the machine's help for."

"Strange. Then do you admit, for instance, you recognize the value of my idea?"

"There's nothing strange at all."

"But you're vacillating, sir. Can you believe in the machine and not in the theory?"

"Think whatever you will."

"That won't do. You're only clinging to the performance of the machine; you're openly admitting you're not concerned with the nature of the forecast."

"Who said that?"

"It's true, isn't it? The fact that you don't make up your mind, sir, is not because you can't believe but because you don't want to. Ultimately you're going to admit what those who oppose the forecasting machine have to say. You're a type of man who can't bear having foreknowledge of the future, and you'll end up incompetent to be in charge here."

Suddenly my anger changed to remorse, and my face became congested and red with fatigue.

"Well, perhaps it's as you say. People your age think nothing of saying pretty cruel things."

"Don't say that." Instantly his tone changed to one of friendliness. "You should know better than anyone that I'm awfully blunt. I know it's offensive."

"I don't want to leave here. I wouldn't know what to do if I dropped the work I developed myself. If things get out of control, I suppose I'll give everything up and resign. There's no other alternative, is there? It's really funny that a forecasting technician should be reluctant to know the forecast of his own future. But I don't want to discuss with the machine what I should do."

"You're tired."

"You're a sly fellow, you really are."

"Why do you say that?"

"I mean you're not frank."

"But if I can't get you to tell me on precisely what points . . . ,” said Tanomogi querulously.

"I agree for the present that we've got to devote all our efforts to finding out just what this trap is. But to do that, I wonder whether visiting the aquatic mammals is all so urgent. Oh, I don't have to ask to know you think it is. You wasted half a day at the laboratory, and now, this late, you're hell bent for some reason on dragging me over there. Oh, I understand. But for some reason you haven't made the slightest attempt to produce an explanation why you want to. You say that if the business about the buying and selling of fetuses is the truth, the laboratory for raising fetuses artificially outside the womb would probably afford some opportunity of getting clues. But it's quite inconceivable that you would be so excited about going for such a vague reason alone. As you say, there are only three more days until the committee meeting. If you're not fully convinced of success, isn't it a waste of valuable time to go off looking at water dogs and water mice? I'm convinced you're still concealing something."

"You're imagining things." Tanomogi smiled self-consciously, perhaps because my tone had been so mild. "It's

my idea that we've absolutely got to leave there once we've found out the truth about the buying and selling of fetuses in order to set up a clear line of action. But I don't have the nerve to force you into it, sir. I'm very much aware of how mad this venture is. It's disagreeable for anyone to be compelled to contemplate the unimaginable. Yet if I can get you once actually to see the life of these aquatic mammals, you will at least believe trade in fetuses is possible. Actually, after I learned about how they lived, I was almost able to accept the trade as fact."

"But I doubt if it's worth taking the trouble of going to see them. Why not just accept the hypothesis that they exist and set up a concrete line of action accordingly?"

"But can you take seriously something you don't believe?"

"I'll make myself believe."

"No, you still don't believe. You can't come to believe so simply." I involuntarily gave a strained laugh. "There," he said, picking me up, "you laughed. It proves you don't believe."

"You're being ridiculous."

"If you believed even a little, you wouldn't be able to laugh. Just think about it, being able to produce several millions of aquatic humans year after year."

"There are too many blanks in what you say."

"Since you don't believe me, you can only consider all possibilities blanks. We can't establish any line of action if you're like this."

"I know. I know. Then let's let it stand: Every year they can produce several millions of aquatic humans."

"And among them, your own child, sir."

I burst out laughing. However parched the tone, it was laughter. Indeed what answer could I have made other than laughing? From deep in my consciousness the exchange that I had had with my wife several days ago and that I had paid little attention to came struggling to the surface of my memory. I remembered clearly: It had occurred on the evening the last committee meeting took place. I was seated in bed mixing

a highball, and my wife was right beside me, saying something, trying to get my attention. For no reason I was unhappy. It was not only the hard time I had had with the committee; I was irritated at my state of exhaustion, and had my attention not been drawn thus, I should not have looked around at her. Her very presence was oppressive, as if she blamed me. "Why don't you go ahead and buy it," I said, glancing sideways at the catalogue of electrical appliances as she smoothed out the dog's ear at the top of the page with her index finger. I hurriedly raised the glass to my lips.

"Buy? Buy what?"

"You asked about this air conditioner, didn't you?"

"Really! You haven't listened to a word I've been saying!"

It was true. The fine wisps of hair that fell over her forehead were conspicuously white against the light and terribly suggestive of the passage of time. She had been talking a little while ago about the baby.

This was a continuation of the subject from last night. My wife had received the diagnosis of her pregnancy, and we were discussing whether or not she should have it terminated. Even if that had not been the case, women seem to like to talk about such things. Just recently I had a casual conversation with Wada Katsuko about the same thing. Of course, when I considered the conversation now, I was very suspicious as to whether it had been all that casual. Whatever, there was no reason for my answer to be any different. The problem was my wife's physical make-up, which predisposed her to extrauterine pregnancies. There was nothing to do but let the doctor make the decision; at this point it would serve no purpose to start an argument. However, though my wife realized the futility of it, she wanted to engage in verbal battle. I understood how she felt, but even so it seemed foolish to agree with her. I didn't want a child, nor did I particularly not want one. Children don't create life, they're only created.

The doctor had said that this time there was the possibility that the pregnancy was normal, but that it would be safer to decide on a D and C and remove the fetus. It would be fan-

tasy to inject a moral judgement into a situation like this, one that had nothing to do with any decision. It may be difficult to distinguish between abortion and infanticide, but it's easy to distinguish between abortion and contraception. Even though it's true enough to say that man exists in the future and that murder is morally wrong because it robs him of that future, the future is forever a projection of the present. Who can assume the responsibility for the future of something that doesn't even have a present? Such a person is trying to turn away from reality in the name of responsibility.

"You're saying I should have the abortion?"

"I didn't say anything of the kind. I'm saying that I leave the decision up to you."

"I'm asking *your* opinion."

"I don't have any particularly. Either way is all right with me." If the bickering was absurd, avoiding it would have been blatantly dishonest. After all, people who are close have to hurt each other senselessly like this. But I believed only in my own logic and made light of the matter, saying that it wouldn't affect me whatever she did. I slowly drank my second glass of whisky and did not follow my wife, who suddenly rose and crumpled the catalogue in her hand. The next instant I was able to put the whole conversation completely from my mind.

But that one phrase of Tanomogi's that my own child might be becoming an aquatic human suddenly quite undermined my assurance. My child who was not to be born, staring fixedly at me from the murky depths of the water. The dark lines at the base of the jaw were gills. The ears were normal, but the eyelids were completely different. White arms and legs leaping in the dark water. My child who was not to be born. My child, created as I sat cross-legged on my bed, savoring the psychological satisfaction I experienced from the wounds my wife and I had inflicted on each other. The indolent self-deception and the stupid self-conceit of that evening were now being revenged. Thus the wounds mutually inflicted had become wholly one-sided. My wife was flagellating

me cruelly with the specter of our child who had been forced into life. The more I tried to protect it, the more I hurt it; but when I tried to escape, it was there before me, its wide, fixed stare waiting for me in the water.

I stopped laughing . . . awkwardly.

Tanomogi scanned my face. "No, it won't work, will it?" he said as if he were handing down a sentence. "I still would like you to see the real thing in the lab."

"All right. You've convinced me what's got to be done."

"What are you going to do?"

"I'll tell you that once we've been there and seen what there is to see."

Relieved, Tanomogi groped for the pencil he had stuck in the breast pocket of his shirt and quickly set about clearing the machine.

"Look here, was the machine recording all this time?"

"You said nothing about shutting it off, so I let it go." Then opening the little window and showing me the meter that recorded the running time, he said in a playful tone: "This'll stand in place of a will, just in case."

A faint, gentle murmur welled up, shrouding the room. The machine, silent as usual, somehow did not seem to be as it usually was. It was as if the road to the future was ready to open up just beyond it. Suddenly the future was not the simple blueprint it had been until now, but seemed like some frenzied living thing that possessed a will independent of the present.

Program Card No. 2

Programming is essentially the operation of reducing the qualitative to the quantitative.

23

Outside it was sultry and hushed. Perspiration oozed from between my fingers as if I were wearing gloves that had just been aired in the heat. There were no stars, and the moon tinged with red showed its roundness now and again through rifts in the clouds. On our way out we stopped at the guard-room and Tanomogi made a phone call. The guard cheerfully brought some fruit juice as if he had been expecting us. Trying to keep up appearances was decidedly unpleasant.

"Did you contact them?" I asked at random.

"Yes, I did," Tanomogi replied with a pinched smile, setting out briskly.

From then on we were silent. There was no sign we were being followed. When we got to the main street, we hailed a taxi. I took out my handkerchief, but not soon enough to catch the drop of perspiration that fell from the tip of my nose.

Tanomogi gave instructions: "From Tsukiji you go through Harumi and there's a bridge that leads to Area 12 in the reclaimed land. You know . . . I think they call it the Yoroï Bridge. You cross that and it's right there."

The middle-aged driver, a towel wrapped around his head under the regulation cap, glanced suspiciously over his shoulder, but he bore down on the accelerator without speaking. Rows of disconsolate wooden houses, stagnating in the heat,

flowed disinterestedly by the taxi window. The streets had gradually absorbed the sultriness. After driving about an hour we left Harumi behind us, and the countryside changed to one of utter desolation with only a needlessly wide road flanked by concrete walls. In the meantime we rambled on, grumbling to each other about the frequent little earthquakes, the sinking of the land, the unknown origin of the high tides, the sudden changes in weather ceaselessly repeated over the years. I had the impression I dozed off some ten or fifteen minutes.

At length, in the clammy sea breeze the Yoroï Bridge came into view, gleaming greenly. There was something profoundly disturbing about the striking illumination in the midst of this oppressive landscape. The instant we crossed the bridge, I heard somewhere the short, low sound of a steam whistle. Evidently it was sounding midnight.

A limousine had stopped by the side of the road. A man with a pocket flashlight was leaning over the engine, apparently checking some malfunction. Tanomogi had the taxi stop and paid the fare. "This is it," he said, proceeding in the direction of the car at the side of the road. The man with the flashlight pulled himself up and nodded his head politely as we approached.

We changed to the car that had come to meet us and rode on for some twenty minutes. This road too was wide and easy to follow, but it continually circled. At last I lost my sense of direction; as we had crossed some three large bridges, perhaps we were no longer headed in the direction of Area 12 on the reclaimed land. I didn't even bother to ask, for I assumed that since the whole business was so complicated I would not get a straight answer if I did. And then, if they intended to provide one, I might just as well have them explain it to me with a map later.

Suddenly we were there. A deserted town with only great warehouses. We stood before a small wooden one-story structure surrounded by an ordinary concrete wall that had been cut down in front and from which a road led to the sea. A sign

was suspended almost out of sight in a corner of the entry: Yamamoto Laboratories. In the garden stood a number of empty, weather-beaten drums. I looked up hurriedly at the sky, but unfortunately the moon was hidden behind the clouds. Even if it had been visible, I didn't imagine it would help much in discovering what the place was. The surrounding shore was open in all directions with the exception of the north.

Yamamoto himself had come to meet us. He was a large man, with a pale, dirty face. "My brother is much in your debt," he said in a modulated, forceful voice; and the calling card which was offered appeared tiny between his fleshy fingers with their sunken nails. When he said this, I recalled that his younger brother had been in charge of the electronic diagnosis room at Central Welfare Hospital, and I could not help thinking that this relationship was like some strangely threatening password. When one has amnesia and is expelled from the natural order of the world, I imagine everything begins to appear enigmatic like this. Trying to conceal my uneasiness, I made a stab at returning his greeting.

"Now that you say it, you look a lot alike."

"Oh, no. We're brothers, but only by marriage."

Yamamoto laughed heartily and began to walk ahead of me. Here they wore white robes and sandals too, the way we did, but the white garments were terribly oil-stained, inasmuch as they dealt with living things. His large hands hanging limply at his sides seemed exceedingly heavy. I wondered if such fingers would be better at handling delicate living creatures. It was different from dealing with abstractions, with things that were invisible, the way we did. These fingers might in fact be surprisingly adept.

The interior of the structure was exceedingly shabby and scratched as if it had been some old elementary school building. But for all of that, at the end of the corridor, to the left, there was an elevator in a hollowed-out shaft. We got in, and Professor Yamamoto pressed the button; suddenly the elevator began to move downward. When I thought about it, it

would have to go down, for the building had but one story. But expecting an upward acceleration out of force of habit, I was so surprised I gave an involuntary cry. Professor Yamamoto, as if he had been waiting for this, laughed loudly. It was a guileless laugh, enough to make me forget that it was one o'clock in the morning and the peculiar situation we were in. Certainly he did not seem to be a conspiratorial type. My first bracing, evil intention to discover his true colors, bending its back, had changed into a feeling of expectancy.

The movement of the elevator was slow, but I thought that we had descended about the equivalent of three stories in an ordinary building. There was a long transverse corridor presenting a line of doors. Aside from the peculiar cool dampness it was no different from any laboratory. Turning right, we were led through the door at the end.

An amazing scene stretched out before us: devices seemingly made of blocks of dirty ice, veritable three-dimensional aquariums. Large and small tanks of water were intricately linked together; and the spaces in between were filled with all kinds of pipes, bulbs, and meters. Iron bridges for workers to pass over stretched in every direction, in some places as many as three tiers of them. It made one think of the engine room of some ship. The sweating green walls, the strange, lively commotion, the scent of a half-dried beach off some shoal—it was all like a dream one has before coming down with a cold.

On the bridge immediately above, white-clad figures were coming and going, their sandals clacking, reading meters and making notes. Even when we came in, they did not turn around and look at us, but when Professor Yamamoto called the name Harada, a surprisingly affable face appeared as his voice reverberated deep among the tanks.

“Harada, would you mind opening Growing-Room Three for us, please.”

“It’s all ready, sir.”

Professor Yamamoto nodded and looked around. “Well then, shall we go? For the present it’s my room,” he said, setting off across the center bridge.

"Look," exclaimed Tanomogi, touching my arm and directing my attention to the water tanks on either side. Without being told, I had been taking everything in from the moment I entered.

In the first tank were a pair of aquatic mice. Aside from the fact that light peach-colored crevices were opening and closing between the rough hairs at the base of the neck and that the breast was small and barrel-like, there was almost no difference between them and ordinary field mice. Their movements in the water were surprisingly graceful. Their dog-paddle fashion of swimming was reminiscent of land animals, but they cavorted around with the utmost agility like prawns, expanding and contracting their whole bodies as if they were springs. The rodent features had evidently not been suppressed, for one of the mice pranced up to the surface of the water and grabbed between his paws a chip of wood that was floating there, gnawing on it as he slowly sank on his back to the bottom. The other one suddenly sprang at me, but just before striking the glass of the tank, gracefully turned aside and stared at me with great round, unblinking eyes, flicking the tip of its pointed red tongue between half-open lips.

The next tank and the one after that contained mice. Then the fourth held a rabbit. It was different from the mice: It looked most dejected and miserable with its hair all pasty. It was floating curled up in a ball near the bottom of the tank like some bag. "Purely herbivorous animals haven't worked out very well," observed Professor Yamamoto, tapping the tank above the rabbit with his fingernail. I suppose it's because their method of assimilating energy is too specialized. The first generation manages to live, but subsequent generations don't."

We were led up some iron stairs on the right to a box-like room suspended from the ceiling. Just before I entered, I casually looked around. An immense animal, gleaming darkly in a tank the size of a van located at the far end of the room, dashed to the surface of the water, undulating like honey, and let out a distressing cry. It was a cow.

"Amazing, isn't it," said Professor Yamamoto, smiling and closing the door. "We even manage to raise herbivorous animals if we don't stint on artificial fodder. As cows provide meat and milk, we can make quite a profit if we produce fodder on a large scale. But they're in the water, and a device for milking them presents difficulties. For the present, we're using a small vacuum pump, but I can't say it's ideal." He took out a china pitcher from a refrigerator in the wall and filled a glass. It was milk. "Try a little. Fresh from the cow. It's almost the same as you get from a land animal. Analytically, the salt content is somewhat greater. The milk itself doesn't have any more, it's just that during the milking, salt water infiltrates. Ah, the freshness is its best feature."

I quickly drank some so as not to hurt my host's feelings. Perhaps it was because they took such care with the fodder, but I felt it tasted better than the milk we drank at home. I seated myself on the chair that was brought up. Drinking the milk before being seated was most effective in producing a friendly, informal feeling. If this was all put on, my host was going to be a hard customer to deal with.

"You must be tired at an hour like this. We're used to it here by this time," said Professor Yamamoto, joining his thick fingers in front of his chest, his back facing a wall lined with microscopes and various other instruments for use in chemical experiments. On the back of each finger rose some ten up-standing, coarse hairs, like those on a currying brush. In back of us was a bed, part of which was hidden by a screen, and some high bookcases.

"Oh no, being up late at night is a common occurrence for us too," I rejoined.

"I imagine it is. You must be very busy. It's not quite precise to say we're busy. By the very nature of the work here we almost can't distinguish between night and day. It's the way things are. There are a lot of night prowlers among carnivorous animals, and, well, even if we try and fool them by lighting artificially, it won't work. In training a dog, for

example, it's got to be done outside, and so daytime is out. We're not anxious to be seen, you see."

"Aren't you, indeed?"

"Certainly not!" he exclaimed, smiling warmly. "If we have the time, I'll show you, but a little later. May I offer you another glass of milk? How about you, Tanomogi?"

I looked at Tanomogi, stunned. The casualness of the question, no matter how affable Yamamoto might be, could not be acceptable for people who had seen each other only a few times. But Tanomogi didn't even try to conceal that he felt at home; quite the contrary.

"There's no need to worry about pasteurization, sir," he said, continuing in Yamamoto's vein. "The water in this part of Tokyo Bay is quite pure. It's been filtered and reclaimed artificially."

"Quite true. Let me show you a model of the building," said Professor Yamamoto, arising and taking the cover from a stand by the corner of the bookcase. Abruptly a column of dust billowed up. "Sorry. It's not very clean here. Now, look at this. It's a cross section of part of the laboratory. Above it, up to here, is all sea; it's about thirty feet to the surface, I should imagine. Water is supplied through this pipe. It has filters that make use of natural water pressure. They have a capacity of two million gallons per unit; and besides them we have two reserve units of five hundred thousand gallons, so we're adequately provided for. If the filtering is too perfect, it's not good for growth, probably because the so-called natural balance has been disturbed. There's a decline in digestive capacity, and allergic diseases seem to increase. Here in this tank organic and inorganic matters are mixed together to produce something close to sea water. We can make any kind you want: Red Sea water, Antarctic water, water from the depths off the Japan Sea. We're moving right along with our research on the best water for raising pigs."

"So you don't have to worry about eating sliced raw pig here as an appetizer, like caviar."

"Quite true. It's our special delicacy. Someone unaccus-

tomed to it surely wouldn't like it, but it's much more palatable than beef, say. Once you're used to it, you just can't stay away from it. Will you try some?"

"I think not today, thank you," I replied, irked at his attitude, as if the two of us were collaborators. "I should prefer, if you don't mind, to get down to the main point of our visit immediately." After I had spoken I realized how bungling I must seem, but there was no question of turning back now, and I went on with no idea how things would turn out. "I'm terribly sorry to force myself suddenly on you at such an inopportune time, but you have heard from Tanomogi more or less the reason for our visit, I believe."

"Well, I was only told that it was for research purposes. But never mind. It's really a pleasure to be able to talk with someone like you. I live cut off from the outside world here. Getting permission is rather bothersome, and we seldom have the chance to see anyone, though we live right in the middle of Tokyo."

"By 'permission,' do you mean a permit to go out?"

"No, no, permission to invite people in from the outside."

"Does that mean that this laboratory is under the jurisdiction of some government agency?"

"Not at all. A government agency is like a family: You can't keep anything secret. Besides, it's not all that troublesome." Then he raised a big questioning hand before me, as if to block my way. "No, I can't answer any more. You see, even I don't really know what the top structures are here. But they're powerful. I'm speaking intuitively now. I even sense they're in possession of the whole country. It hasn't occurred to me to check into the matter since I have complete confidence."

"Then *you* know?" I suddenly asked Tanomogi point-blank.

"No, absolutely not!" Tanomogi shook his head and raised his eyebrows exaggeratedly; in his expression I could not discern the slightest tremor.

"Strange, isn't it. How was it possible to get a permit for me then?"

"Through me, of course," laughed Professor Yamamoto, displaying long, widely spaced front teeth, as if he were enjoying the conversation. "I'm the one in charge, and even I don't know, so how could any outsider know the top structures? I was able to submit a request on your behalf because I alone know how to contact them."

"I see," I said, sensing that here was the trump card in my hand. "Then, for example," I added, leisurely savoring my excitement, "that would mean that the first time Tanomogi became aware of the existence of this laboratory, he must have received permission to inspect it by someone else's request, doesn't it? If he didn't, your explanation doesn't hold together."

"Of course it does," interjected Professor Yamamoto, restraining Tanomogi, who had started to speak. "Let me give a simple explanation of the point. For the information of a new recruit, as it were. As I have already said, the work in this laboratory requires secrecy, and this must be respected whether you're a visitor or a member of the staff. Of course, there's no law or anything. We don't ask you to put your signature on any oath, and there are no formal restrictions. However, the screening is consequently all the more severe. We show our work only to those we absolutely know will keep our secret. As a result, there have been almost no slips."

"When you say 'almost,' you mean there have been cases where a promise of secrecy was broken?"

"Mm, I wonder. I think we can safely assume that there have been none, since our work has never once been discussed publicly. But I did hear of a case of some poorly educated workers who talked under the influence of liquor. They received rather severe treatment for it."

"Were they liquidated?"

"Of course not. All kinds of progress have been made in science. You don't have to kill; there are any number of methods: causing a loss of memory, for example."

My trump card had evidently been the right one. Professor Yamamoto's mild expression remained the same as before,

and his voice kept its businesslike hardness. But the nervous little rhythm that Tanomogi was tapping out with his fingertips on the edge of the table—he himself was unaware of it—told me that the conversation was already approaching the kernel of the situation.

“However,” I probed, “you can’t manage to have a dead body speak without making mincemeat of it.”

Professor Yamamoto burst out laughing, shaking his shoulders as if terribly amused.

“That may be true. If we got to that, we would be in a pretty fix.”

“But I don’t understand. If you’re all that fearful of your work becoming known, you should not have granted visiting privileges to start with. It’s all right in the case of some pressing request by a given applicant, but aren’t you just laying a trap by arbitrarily forcing a permit on someone and saying you’ll kill him if he talks? And knowledge he can’t talk to anyone about serves no purpose. It looks to me as if your aim is merely to torment.”

“You exaggerate, sir,” began Tanomogi. “There’s absolutely no objection about insiders discussing the work as much as they like.”

“Of course not,” continued Professor Yamamoto. “In principle, the request for a permit is handled through a third person; this is a means of enlarging the number of people who are sympathetic and not against keeping our secret. Anonymous voices, as it were, like public opinion and rumor, are quite different from the judgment of responsible individuals, sympathizers, you will agree.”

“Sympathizers, sympathizers, you say. What in heaven’s name are they supposed to sympathize with?”

“That’s precisely the reason I’m going to show you around now.”

Professor Yamamoto stood up briskly, rubbing the palm of his hand back and forth on the lapel of his white coat and narrowing his eyes as if pleased. “I should like you to take an intellectual rather than factual interest in what you’re going

to see. First we're going to start with the growing-rooms, but before that, a very simplified history of what our research proceeded from."

"Just a moment. Before you go on, there's one more thing I'd like cleared up." I too stood up and took a step backward, dropping my raised hands slowly to the table. "Tanomogi, I realize it was you who put in the request for me, but what I don't understand is who put in the request for you. If the person who was permitted to observe this work is a colleague, don't I have the right to know who it is? Who selected you and why?"

"All right. I'll tell you," said Tanomogi, smiling faintly as he rose. "Since I can, I will. It's just too bad if you're angry because I haven't told you until now."

"No one's angry. I just want to know the truth."

Professor Yamamoto intervened, speaking as if he did not know what the whole thing was about. "Yes, indeed, the truth is fascinating, isn't it? At last, the heavy burden has been taken from Tanomogi's shoulders."

"In point of fact, it was Wada," said Tanomogi self-consciously, licking his lips.

"Wada?"

"Yes. Before she went to work for you, she was employed here for some time," interceded Professor Yamamoto, raising his hand. "She was a competent worker and, for a girl, possessed amazing perseverance. But she had an unfortunate weak point for a place like this: She couldn't stand the sight of blood. So she left and went to you. But if I remember correctly, her sponsor at the time was my younger brother at Central Welfare."

"Right. That's quite true. I remember now."

At once the various links of the chain closed with a snap . . . too quickly. But even with my suspicions dispelled, the problem was still there. The links had been neatly plucked from the air, but the fact that the touch was too neat made me sense here some hidden device. Unfortunately the very magician who was performing this sleight-of-hand for me had

still not actually revealed himself. I was thus suspicious but fascinated by the well-ordered links of his chain. Suddenly a new wiring chart was drawn between me and the central figure who had seemed only an accident, and the link between us was clear and strong. To some extent I could even understand the reason Tanomogi had brought me here. At least the explanation was feasible. Even though I did not go so far as to trust him, I was beginning to feel that the possibility existed that I might. I exhaled slowly so that the deep breath I had taken would pass unnoticed by the others.

24

"The first research project for our group was the metamorphosis of insects. Professor Katsumi, you have some knowledge of genetics, I believe?"

"Oh, no. Consider me a rank amateur. I've even forgotten whether the inner or outer germinal layer is produced first."

"Fine. That will make it easier to explain things in simple terms," said Professor Yamamoto, tapping alternately both ends of an unlit cigarette on the table. "Of course," he continued in a slow voice as if weighing every word, "our goal was not only the metamorphosis of insects. What we were aiming for, to put it in general terms, was the planned reconstruction of living creatures. To some extent improvements have already been made. We have actually been able, in the case of plant life, to double the chromosomes. However, in the case of animal life, our efforts have not gone beyond the purely experimental stage of breed amelioration. We want this improvement of living creatures to be fundamental and well planned. It's an ambitious project: We're attempting to cause evolution to progress artificially and rapidly but in a given direction. Now as you know, the development of an individual repeats the development of the family line. Strictly speaking, he does not repeat the exact form of the forebears,

but nonetheless he has a basic relation to them. Accordingly, with enough effort, we can separate a living creature in the developmental state from its normal lineage and make it into a completely new species. With our present extremely elementary methods, we have produced such grotesquely abnormal creations as two-headed minnows and a frog with the mouth of a lizard, but that doesn't mean in a real sense that we have been able to improve on them. A child can break a watch, but to create one requires a specialized technician. Growth in animals is always governed by two opposing hormones or stimulating substances. The positive stimulus promotes disintegration, and the negative one curbs it. When the positive stimulus is strong, a great number of small cell clots occur, and when the negative one predominates, they grow very large but remain undifferentiated. The complex workings of this alternating process constitute the inherent law of growth in living things. If you wish, I can express this by a simple integral equation."

"That's what we would call a composite feedback, isn't it?"

"It's a feedback complex. And in order to investigate the detailed workings of it, we've been observing the metamorphosis of insects. It has been known for some time that the specialization hormone secreted from nerve cells and the larva hormone which comes from the *corpus allatum* are what control the metamorphosis of insects, and we have actually been able to see what will result from the elimination of one or the other during a given period. But the control of growth by minute and quantitative regulation is technically difficult. Exactly nine years ago, however, they succeeded in realizing this control experimentally almost simultaneously in the United States and in Russia. Then the following year our group, working independently, also discovered the technique. We produced some very strange insects. Here, just look here."

Professor Yamamoto brought out from behind a screen a contraption resembling a large birdcage. In it two flat, gray creatures about the size of the palm of a hand were crawling about. They were repulsive insects to look at, with bristles

gray like the body all around them and their whole surface covered with a viscous membrane.

"What do you think they are? They have six legs, yet they're really insects. They're flies. Surprised? They're arrested but full-grown larvae. See here . . . they have a mouth just like a fly, and reproductive powers to boot. This one is the male, and that one is the female. They're only a novelty; they have no great significance. We're keeping them to commemorate our first success. They're ferocious. If you put your hand in, they'll bite. When they're feeling well, probably at times when they're in heat, they make a curious creaking sound. Now then, let me take you into the growing-room."

We went down the bridge of the breeding-room, and passing through another door opposite the one we had entered, we came out again in a dark corridor. Ahead, Professor Yamamoto cocked his head to one side and continued talking.

"Since then, international exchange of information on insect metamorphosis has come to a dead stop. Well, it hasn't completely; some concerning the production of mammals outside the natural womb is published. But it's all pretty abstract, and other than that a wall of utter silence obstructs further exchange. When you think about it, it's to be expected. For those of us in such research the significance of the silence is all too clear. It's no longer a simple question of scholarship or technique. Everyone has the premonition of something more profoundly frightening. The apprehension is all the greater in that reconstruction of life seems possible, theoretically and probably technically too. I want you to see. It's this room."

There was an iron door on which was painted the numeral 3. I saw a box, glazed on three sides, about thirty-six square feet in size. The inside was visible through the glass. Several scores of conveyors on a number of different planes were moving slowly right and left. Beside them hundreds of machines, like lens polishers, were operating in a slow, up-and-down motion. At the bottom, four white-coated men facing a long metal worktable were in the act of performing some operation.

"I can't let you go in. The inside is sterile. I usually give orders from out here myself. Look there. In this room alone we are able to handle thirteen hundred fetuses a day. We are separating them from their natural line of development according to a pre-established program. What you see right in front of you are the fetuses of aquatic cows. Yes, it's quite true. We were thoroughly frightened too when we first pictured this to ourselves," said Professor Yamamoto sympathetically looking at me, the corners of his eyes wrinkling. "After all, we're natural scientists, you see. We're always getting called all kinds of exaggerated things—we're the defilers of nature—but we keep right on. To tell the truth, we were horrified only at the time we conceived of a place for processing the metamorphosis of fetuses."

"Even now as I look at it I find it horrifying."

"I don't blame you. A truncated future generally gives one a strange feeling. I hear that when certain primitive natives in Africa first came to the city and saw the tall buildings, they took them for human slaughterhouses. Well, sorry, don't take me too literally. What I mean is, something whose connection with human experience we cannot grasp is bound to be frightening. Something that's meaningless but stronger than we are."

"Then are you saying there's some reason you manage not to shudder at this fantastic research?"

Professor Yamamoto nodded emphatically with self-confident candor, emotionless as a doctor reasoning a patient into compliance. Without immediately answering me, he opened the metal box located to the side, and turning a switch, spoke through the glass to those working on the inside.

"Harada, would you please show us one of the seeds you're preparing," he said, and turned around. "We're in the habit of calling unprocessed fetuses freshly removed from the placenta 'seeds.'"

One of the workers nodded over his shoulder, picked up a flat glass container from a table, and climbing the iron stairs, came over to us. He wore a suppressed smile, and his eyes

sparkled mischievously. Apparently to soften somewhat my stiffness, Tanomogi coughed next to my ear.

"This is a Yorkshire hog," said the man through the receiver.

"Are they in place?" asked Professor Yamamoto in return.

"Yes. Everything has gone smoothly."

Tiny strands of blood vessels coming from a wormlike center in a dark-red gelatinous substance lay scattered about like little bursts of fireworks.

"The most difficult part," explained Professor Yamamoto, "is fixing the seed in an artificial placenta. We do that first. Something like grafting, I suppose. Of course, we have problems getting the seeds and storing them until they're delivered to us. Obviously, they've got to come into contact with the outside, and that's when the secret's most likely to leak out."

"The present rate of successful implantation of pigs is seventy-four per cent with Yorkshires."

Professor Yamamoto nodded to the voice in the receiver. "On that worktable you can see down there they're culling. It's the only time we use human hands. From this point on everything is mechanized, as you can see. We put only the successfully implanted seeds, artificial placenta and all, on this end of the conveyor belt. Then the machine transports them one by one. It takes about ten days to go from one end to the other. See those cocks with swinging heads placed at fixed intervals along the way? They inject a fixed dosage of finely differentiated hormones into each fetus. In a real womb the interaction of the hormones coming from both the fetus and the mother's body produces minute changes. We analyze them in terms of quantity and time and supply the hormones accordingly. If we performed the process in the same way it takes place within a real placenta, we would naturally get a land mammal similar to the mother. But these pigs have been created under slightly modified conditions. We can express this modification by a secretional equation, in which a expresses the rate of hormonal flow, but let's skip that."

"Yet the various seeds differ in the time and the number of hours and days since conception. How do you even them out?"

"You've hit on an important point. In the case of pigs, generally our standard practice is to take fetuses about two weeks old, but of course there's some difference among them. There is no need to add, I believe, that as long as the change in their development takes place according to the *a* function I mentioned up to the crucial point when the fetus becomes aquatic or amphibious, there is no need to be concerned with the rate of growth.

"There are also differences in wombs: Some are young, some older. Only when the crucial time comes should the distinction be made. You can't tell very well in the area you can see from here, but there's a change in the color of the placenta. You see, it's a little paler. When you get accustomed, you can spot it immediately."

The young worker Harada at once went back to get one. As we waited for him to return, Professor Yamamoto lit a half-smoked cigarette he had stuck in the pocket of his white gown, saying it was all right to smoke.

"What curious habits we fall into, we breathers of air," he murmured, following the smoke with his eyes as if he were witnessing something quite fabulous.

"For instance, up to there is the work of Growing-Room Three," said Tanomogi insistently in the tone he had used before. Perhaps he was giving in to fatigue.

I had become weary myself, and despite the strain shuddered as if I had done something inexcusable. But Professor Yamamoto paid not the slightest attention.

"Now, the order goes like this: Room One, removal of impurities; Room Two, transplantation to artificial placentae; then they come here. When a color change in the placenta occurs, we move them on to Room Four, and finally they begin to change into aquatic mammals. Ah, he's evidently found one."

The young man of a while ago came hurrying back, bearing

a different glass receptacle, which he held up for us to see. Since it had been explained to me, I recognized a fetuslike object, an indistinct shadow in the area where the blood vessels branched out.

"There, you see. A new inner secretion has evidently begun in the fetus. When we see that it's arrived at this stage, we shift it immediately to Room Four. Harada, show us the front, will you? They develop fast. The characteristics of this period are that the backbone is almost formed and the first kidneys and the gills are very active. The large folds at the base of the head are the gills. Why are the first kidneys and the gills, which ultimately disappear, so active only in this stage? Sorry for the biology lecture, but this is a most important point."

A condensed version of Professor Yamamoto's explanation: In evolutionary theory the principle of interrelation is a very important one. According to this law, change in a single organ of a living creature necessarily provokes change in other organs. We're not merely concerned with being able to repeat the past, with being able to repeat the life line of the species through the individual process, but with the necessity of forcing this life process ahead. Of course, everything is not repeated. Blood in the early stages of fetal development, for example, is almost the same as that of an adult. Only those elements that ultimately disappear and yet are necessary for the next stage of growth are repeated. For instance, even in the case of the pig, there is a stage when it has a first kidney. In full-grown creatures only the lamprey has this type of kidney. In other cases the first kidney atrophies in about five days without exercising any function. Then afterwards a second kidney is formed. At first glance it seems a purposeless process, but when in this period the first kidney is eliminated, the second kidney is unformed. Thus the atrophy of the first kidney is not a simple disappearance; it plays the role of a kind of inner secretory organ leading to the second-kidney stage. The second kidney also undergoes a specialized transformation and changes into an inner secretory organ, ultimately forming the real kidney, the final stage.

The same is true of the gills. The half nearest the head functions specifically as an inner secretory gland and serves to bring about the evolution of the other half from gills into lungs. The organs that transform the gills are called the thymus and thyroid glands.

Now the question arises as to what would happen if we ended up, for example, with the gills remaining as they are and not evolving into inner secretory glands. Like the fish, whose evolution stops at just this point. But even if we arrested the fetus of a mammal here, it still wouldn't turn into a fish. The most we would produce would be some monster like a slug with no vitality, because the number of elements essential for becoming a fish would have already atrophied without all elements being repeated.

Having come this far in his explanation, Professor Yamamoto with his thick-lipped smile looked at me questioningly.

"Have I explained sufficiently?"

Without waiting for an answer he started walking in the direction of the door. "Now I should take you to Growing-Room Four, the next in order. But there are only glass bowls turning round and round in a dark room, so we'll skip it and go on to the last room, number five."

"Yes," said Tanomogi over his shoulder as he made way for me, "when Wada brought me here the first time we made the visit in this order."

"If you like, I can let you see later a film taken with infra-red light."

"No, thank you very much. It'd probably be too specialized for me."

"Of course. Unless you're particularly interested technically, there's really no need. But I would just like you to see Room Five. It's rather an attraction."

Again we set off along the long, downward-sloping corridor.

"The determination in the gill stage of whether the gills are to be completed as such or whether they are to change into inner secretory glands," continued Professor Yamamoto, lowering his voice slightly, aware of the reverberations, "is governed by the quality of the hormones coming from the nerve cells, just as in the case of the metamorphosis of insects. The nervous system is really a strange thing. It's not only indispensable for the maintenance of life, but it is also the evolutionary energizer. If you stop the flow of these hormones, specialization at once stops at that stage. On this principle we have created snail-pigs about two feet long."

"Can you eat them?" broke in Tanomogi mockingly.

He seemed to be parading his ability to react in a most everyday manner, even in these circumstances. I found it displeasing.

"Well, I don't see why not," answered Professor Yamamoto, obviously not in the slightest offended. "But with the arrest of specialization, the nervous system also stops at the same time and at a low level of development. As a result, the evolution of muscle, that is, protein, is slower. So I imagine the taste is not too good."

Some white-clad men and women nodded as they passed us. The corridor continued on a lower plane, and from this point the ceiling was arched. The downward slope seemed more abrupt. I had the impression I could hear the roar of the ocean, but perhaps it was a ringing in my ears.

"If we can do this on the level of these snail-pigs," said Professor Yamamoto, making a gesture as if he were supporting an invisible box and turning toward me, "the work of causing the gills of mammalian fetuses to remain should actually be easy. But the matter of arresting the respiratory organs at the gill stage and letting the rest mature normally presents

difficulties. Our general theory about positive and negative hormonal function is not enough. Anyway we can well be proud of our results."

"It's an awfully long corridor, isn't it?"

"We're almost there. It's just around the next corner. We've come the whole way around a U-shaped building. Are you tired?"

"Maybe it's the humidity."

"That's unavoidable; we're below water level."

There was no door to the room. Following the walls, and separated from them by a space of about two yards, a deep hole had been scooped out of the central portion and was filled to the brim with water. It gave the impression of a small indoor pool. But it was different in that the inside of the tank was illuminated, and the scene within showed clearly; it was as if one could touch it with one's hand. That it seemed deep where we were standing and suddenly shallow on the other side was due to the refraction of the light. Around on the left-hand wall were sorts of windows with gauges and to the right several rather larger windows. Two men wearing aqualungs were suspended in the water, at work in front of one of the windows provided with gauges; they sent up columns of bubbles that shone radiantly.

"These are the veterinarians and breeders," chuckled Professor Yamamoto, circling the edge of the pool and leading the way to a small room on the right. It was a most unprepossessing cubicle with medical supplies, surgical instruments, aqualungs, and other electrical implements with strange forms—all scattered about pell-mell. A ventilating device whirred audibly, but an unmistakably pungent stench assailed my nostrils. A small man with a low forehead, who was tracing a graph on section paper, at once arose and offered his chair. When I saw there were only two in evidence, I refused. I did not wish to remain long.

"These gentlemen are here to observe. Would you be so kind as to ask the technicians to make their work easily observable."

We followed the man, who went out dragging along the cord of a small-sized microphone and squatted down at the edge of the pool. In response to his interpolation the two men in the water raised their faces and returned his greeting by waving their hands.

"In two more minutes the next fetus will come out," said the man, looking around at Professor Yamamoto. As he spoke, one of the men in the water signaled with two fingers.

"At this point, they're being born at the rate of one every five to eight minutes," said Professor Yamamoto, nodding back to the man. "Until they get here, the gill-stage fetuses, like the ones you saw in Room Three, differ according to species; but like the pigs, they're stored in Room Four next door for about six months or more. It's curious to use the term 'store,' I know."

"But," I exclaimed in surprise in spite of myself, "doesn't the rate of one every five minutes amount to a staggering figure in six months?"

"Of course it does. With five levels, each producing sixteen thousand apiece, we can handle a total stock of eighty thousand," said the small man, shoving out his jaw as he placed the stained end of a finger under his nose and sniffed the tobacco smell.

"If you were a specialist in the field," continued Professor Yamamoto, peering into the tank, "I dare say you would be interested in the setup of Room Four. The handling of the food supply and waste products especially, the regulation of warmth and pressure—particularly the warmth, which we make slightly lower than human heat—the addition of artificial secretory substances that suppress the specialization of the gills and at the same time let the other organs develop their own specialization. Controlling poison with poison, as it were. Well, that's not quite right. For instance, how do you make salt crystals nonsoluble in water? You use an oversaturated concentration, of course. Anyway we have succeeded in checking the development of the gills alone without affecting anything else."

In the pool red lights lit a gauge at the window. "It's coming," called the small man, scratching at his scruffy head.

"It's an artificial birth," exclaimed Tanomogi, placing his hands on the edge of the pool and leaning over.

The men in the water signaled by waving their hands, and then moved in the direction of the window, keeping to the side as much as possible so that the air bubbles would not obstruct our view. Suddenly a metal box painted a dark color filled the window as it came sliding through, stopping about two feet away. At once the men began manipulating the gauges.

"They're removing the artificial placenta."

Opening the door of the box, they extracted a plastic bag. The bag changed into a great sphere before our very eyes. It was filled with a dirty, reddish liquid. One of the men inserted a hoselike instrument that came from a gauge into the sphere and turned the cock.

"They're exhausting the liquid inside. When you take the placenta away, breathing with the gills begins as a reflex, so this operation must be performed very quickly."

The sphere constricted, adhering closely to the form within; it was a small pig. The piglet wriggled about, moving its legs. The other man inserted a knife into the front of the bag and stripped it off quickly as if it were no more than a shirt. Although I had not noticed him, the little man had taken up a long pole, and standing over the now useless bag, fished it out and with a single experienced movement tossed it into a drum in the corner. This was the origin of the pungent odor I had smelled a little while ago.

The unsteadily writhing pig was seized by its front feet and made to exude what looked like a flesh-colored mist. The assisting man attached a brush over the nozzle of the hose and wiped the waste material from the body and then vacuumed it up. If they didn't do this, the water in the pool would doubtless get thoroughly polluted. The pig squirmed as it was given a shot of something in the ears with a metal hypodermic instrument.

"The eardrum is useless and besides it easily gets inflamed, so they stuff it in advance with plastic as you have just seen."

"As it matures . . .," Tanomogi began, but at once fell silent again. Perhaps he felt that what he was going to say would interfere with my own question.

"That's all right. You go first," I said.

"My question's a simple one," he continued. "I was wondering whether the stoppers don't come loose as the pigs get older."

"They would, but this plastic has some interesting qualities. It's unaffected by gravity and flows in the direction of greater heat. It spreads over areas directly affected by body warmth. That point has been neatly solved. Now your question, Dr. Katsumi?"

"Well, it has to do with sound. What about the problem of sound under water?"

"There are still a number of unresolved points in this instance. In the case of fish, the ear is very serviceable even though covered by bone, so perhaps sound can be heard through the plastic stoppers."

"Do you mean that water animals are not deaf?"

"Of course I do. Aquatic dogs especially are sensitive to even very faint noise."

"They're always calling the sea a world of silence, but it doesn't appear to be all that quiet, does it," said Tanomogi knowingly.

"Absurd!" exclaimed the little man, squeezing in between us. "There's no more noisy place than the sea, if you just have the ears to hear with. Fish go screeching about like birds in the woods."

"The question," said Professor Yamamoto, cocking his head and running a big finger down the length of his nose, "lies rather in the production of sound than in the hearing of it. There's no question with gill breathers of using vocal cords, and we have been much troubled with this problem. A dog that can produce no sound won't make a watchdog. Of course, with dogs we have managed to train them too."

"You mean train them to bark?"

"No, no. We teach them to gnash their teeth rather than use their voice. We took the idea from certain kinds of fish, and it's rather a point of pride with us that the notion was so good."

The man, who had finished with the cleaning, in a single thrust came floating close to the surface of the water, holding out the little pig clasped in his arms for us to see. It was light pink and covered with white hairs, and its gills, resembling folds of skin, were busily opening and closing. It looked up at us from the water in goggle-eyed wonderment.

"Are the eyes already open?"

"Yes, did you notice?" said Professor Yamamoto, laughing in amusement. "I said that outside the organs of respiration no other change occurred, but if we go into detail there are actually a number of differences. It's not so much that the eyes are open but rather that the eyelids have atrophied."

The man in the water shifted the pig to under his arm and adjusted his faded blue rubberized tights, which had become twisted. Then he cut across the pool and vanished as if sucked through the window on the opposite side. In his wake remained a white belt of dissipating silver bubbles.

"Where did he go?"

"To the suckling farm. Glasses!" he said to the man next to him as he went around to the side with windows. "I intend to show you an anatomical chart later, but a certain degree of influence remains, of course, in a number of organs under the control of hormones coming from the atrophied gills. Most conspicuous is the disappearance of the outer secretory glands such as the tear, salivary, and sweat glands. Besides that, the vocal organs are shed and the eyelids atrophy. Then there's the matter of lungs in aquatic mammals. Since they have gills, the lungs remain, although the windpipe vanishes completely and the bronchial tubes open directly onto the alimentary canal. They're not lungs in the usual sense; it would probably be more fitting to say that they're shaped like an uncommonly developed fish's air bladder. I suppose it's a mystery of nature,

but the lack of tear or salivary glands is no hindrance to any creature living in the water."

"Well then, that would mean they can't laugh or cry," I said.

"Do you expect animals to laugh or cry?"

The other man, who was still in the water, climbed up the iron ladder. Apparently he was going to alternate with the little man outside. The latter came carrying on his shoulder a long, slender tube that looked about six feet long and was painted white enamel. As soon as he had handed it to us, he withdrew again and began changing into a dark-blue water suit. Professor Yamamoto lowered the key-shaped extremity of the pipe into the water, and directing the lens end toward the window, peered into it through the eyepiece above the water. It was a reversed periscope, if you will.

"You can see here. Look."

Thus urged, I grasped the pipe with both hands and put my eye to the eyepiece, but I could discern nothing. The whole field of vision shone with an indistinct, milky light. Thinking that perhaps the lens was foggy, I was on the point of taking out my handkerchief. "No, it's all right as it is," said Professor Yamamoto. "Just keep looking steadily as you are. The fogginess is just the dirtiness of the water." When I persisted, I had the impression that perhaps I could see something.

"Those things moving around are little pigs. The big honeycomblke objects hanging down are artificial breasts. The sucklings can't help letting milk escape as they drink, so the water in the nursing room is quite dirty."

"But why doesn't the impure water come over here? There's no special device to stop it, is there?"

"In between is a curtain of water current. The nursing room itself is divided up by four water curtains. They make four different planes where the temperature goes from thirty-three degrees to sixty-four degrees fahrenheit. With water curtains you can go back and forth through them unimpeded. We change the nursing planes from time to time and that way accustom the animals to sudden changes in temperature

whether they like it or not. This also has a good effect on the development of hair, the oil glands of the skin, and subcutaneous fat."

My eyes were gradually growing accustomed to the gloom. Several scores of little pigs were hanging by their mouths to clusters of breast-shaped objects, each terminating in a protuberance shaped like a white nipple. They were covered with a whitish mold and seemed quite like grapes that had lain too long in a shop. The shadows of men with aqualungs on their backs threading through them now and again, swimming like rippling flags, were very probably the keepers.

"We feed them here for about a month until they're weaned, and then they're sent to an aquatic sty."

26

Order Sheet No. 112

To: Yamamoto Laboratories

From: Niigata M.—Sea-Bottom Farm 3

Please send the following items at once via overland express mail:

Item: 2 head seed Yorkshires

Item: 2 antishark watchdogs

Item: 5 hairy hunting dogs

Item: 8 No. 3 improved milch cows

Item: 200 units vaccine against marine-snow fever

We passed over an aquatic farm about the size of a small lake, in a boat equipped with a searchlight; the air was heavy, and it was difficult to breathe.

"When they say 'seed Yorkshires,' are the characteristics you create here hereditary now?"

"No. For the first generation that's impossible. First-generation aquatic animals can be raised, but they have no reproductive powers. We produce the second generation too outside

the womb by the same process, but *they* have regenerative powers. We call this second, man-made generation 'seed pigs' or 'seed cows.' Since the process is long and the price high, we're not yet doing business on a very large scale, but the time is coming when aquatic animals able to reproduce by themselves won't be a curiosity."

"But what about these Niigata Sea-Bottom Farms?"

"They're just what the name says: They're farms on the ocean floor."

"Do they ship produce to market, then?"

"I don't really know whether they do or not. But orders like this began to increase sharply around the end of last year. It seems to me that the first was Boso A.—Sea-Bottom Farm 1, and then so many others like the Pacific KL—Deep Sea Farms, I can't remember them all. The number of animals we've produced up till now, pigs and cows together, comes to about two hundred thousand head—about five per cent of the number of head held on land in the whole country. Since the farms are very probably part of a single organization, they're obviously a profitable enterprise."

"Incredible!"

"Well, I really don't understand it myself. Those piles on the sea bottom are probably drifts of marine snow. They say it's excellent fodder for the pigs. If it is, their food supply is inexhaustible. You could even pasture them like sheep there. Isn't it quite conceivable to set it up as a profitable industry? Look. Down there. That's where they milk with vacuum milking machines."

"But with such a big enterprise going I really can't believe that word hasn't gotten about."

"True, it's a solid organization," quickly interrupted Tanomogi, who was rowing, as if trying to draw me out. Since I had not yet been able to decide whether Tanomogi was friend or enemy, I could not at once judge to which of us his remark was directed.

I was indeed confused. Certainly by visiting here my ideas had been completely changed. On that point it was exactly as

Tanomogi had said. I felt that the theory about the fetus broker, which until now I had disliked even hearing about, was really quite valid. If it were, then I must reconsider from the beginning the significance of the chain of events that had occurred within the last few days. The killing of the accountant could no longer in itself be the central event.

At some point my original compunction to pursue the murderer had waned, and the only thing that preoccupied me now was the child that had been taken from me. As for the criminal, I even felt like compromising: I might as well issue a false statement from the forecaster to the effect that the mistress was the murderess, if by so doing I could save my machine. In a certain sense, I had come a step closer to the truth in coming here, but I also had the impression that I was farther than ever from the solution of the murder. If I was, then so be it, I did not care. I had had enough of meddling in such things. Tanomogi had said something about the police being suspicious, but even for the police, appearances are important. As a lie would be the lie of the forecasting machine, I thought it better than leaving things in the dark. Now the only thing I wanted was to get out of here as soon as I could and settle myself beside my serene and infallible forecasting machine.

But there was one more thing I must do before that: find this child of mine, who had been spirited away, and cut short its life before it was transformed into some aquan. When I had done that, I would wash my hands of the whole business. The next time I would get a really ordinary person and start everything over again from the beginning. Yes, it seems I remember Wada saying she wanted to be forecast. She would be lovely as a sample case. But when she got older, even she would no longer be lovely. At the very least a peaceful, quiet future would be unraveled, one knit of little pleasures and little pains. There was no interest in her, and yet as a sample case, she had the least possibility of error.

"But why do we have to be so secretive?" Tanomogi broke the silence as if he could no longer stand it. Just at that

moment the boat arrived at the opposite shore. Professor Yamamoto jumped out with an agility that belied his large frame and stretched out his hand to me.

"Because this work of ours is too revolutionary," he said quietly, not in the slightest vexed by the question. "There would be great repercussions both nationally and internationally. But say we do push on with it, even the governing body of the organization has no clear picture of the outcome."

"Why are you doing something the prospects of which you can't foresee?" I asked.

"Well, in the view of the big men in the financial world, we've got to open up artificial colonies like this. Just as in the past, backward countries to trade with are going to become nonexistent, and then it's a better investment than war at least. If the forecasting at your Institute was kept absolutely secret and not spread all over the papers, the big ones would be right there to have the future of these aquatic colonies projected. It's a pleasure just to think what answer you would give. The Moscow machine predicted that Communism was the wave of the future, but that's because submarine colonies never even occurred to it."

"We've decided not to make any political predictions."

"Of course. It'd be against the spirit of liberalism to bind society down with predictions, wouldn't it?"

A high concrete wall ran along the side of the aquatic farm. There was a door, and inside was another indoor pool. It was somewhat larger than the one we had just seen and had holes on four sides, provided with gratings. Just then a trainer wearing an aqualung was putting a dog through his paces. It glistened darkly as if it were wearing armor.

"This is the long-haired hunting dog mentioned on the order blank you saw a while ago. The long hair is stiffened with a special pomade; it protects the skin. It has to crawl into all kinds of places, you see. Look, it has rubber flippers attached to its paws. When it gets used to handling them, it's fully trained. Tomorrow it goes out. It's going through its paces for the last time now."

Suddenly the dog stretched out its neck, and lowering its head, dodged to the side; its body formed a straight line as it leapt at one of the grills and swung back. The next instant it held a fish in its mouth.

"It's a trick not to kill it by biting," added Tanomogi.

"Since the dog can't breathe while it has something in its mouth," continued Professor Yamamoto, "it has to force the sea water from its nose through its gills. Only a dog trained like this can do it."

The dog put his mouth into the bag which the trainer held, waited until the man closed the opening, then released the fish. It was true, the fish swam about on the inside quite alive.

"Sir," said Tanomogi as if the thought had just occurred to him, "do you know how they send such animals overland? It's very interesting. You know the trucks used to transport gasoline, the ones that drag a chain after them . . . ? They send them in those. Clever, isn't it? I'm always amazed when I see five or six of them going by."

"But aren't you trying to pretend you know everything?" giped Professor Yamamoto.

"Not at all," answered Tanomogi, flurried, and the two laughed as if it were amusing.

But for me there was nothing to laugh about. I didn't even have the spirit to force one. I had the sensation that in concert with their laughter my tired eyes had gradually sunk to the size of a thumb.

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Since the car that brought us back was one sent by the laboratory, we were on our guard with the driver and said nothing. I wanted to say only one thing to Tanomogi. And that was all. He seemed tired too and had lapsed into silence. At length I fell sound asleep. We were in front of my house

when Tanomogi shook me awake. I had a dreadful headache.

"I'm going to sleep tomorrow until noon."

"Tomorrow? It's already four o'clock in the morning."

Tanomogi laughed weakly, and out of the corner of my eye I vaguely saw him waving his hand through the window as I staggered into the house. I barely managed to stand upright. My wife said nothing, but I could not bring myself to worry about that. I reached out for the whisky beside my pillow, but before my hand touched the glass I was sound asleep.

In my dreams I was taken back again and again to the Yamamoto Laboratories. I would get in a car and set out but each time arrive at a different Yamamoto Laboratories. It was as if I were standing in a room of mirrors; all roads led endlessly in the direction of the Yamamoto Laboratories. Inside the gate lived something frightening. I couldn't explain exactly how it was frightening, but it was so much so I couldn't stand it. I was late for the beginning of work, and I was going to be punished. On the other side of the gate the indictment was beginning against me. With every beat of my heart the accusation became more harsh. I had to hurry; I had to escape. At last I no longer knew whether I was escaping or advancing. And then again, right there, the gate of the Yamamoto Laboratories was waiting.

It was after ten. I gave a sigh of relief, realizing I was in my own bed. I thought it funny to be relieved and began to laugh in spite of myself. I used to have dreams like this on nights in my youth when I could come home having drunk too much. I tried to go to sleep again, but something suddenly began to trouble me, and this time sleep was quite impossible.

I rose, searching for where the sound of a vacuum cleaner was coming from. It originated in my study on the second floor.

"Did I bother you?" said my wife, neither raising her face nor stopping her work.

"Not particularly. I want to ask you something."

"For heaven's sake, what were you doing yesterday?"

"Working."

"You were so late in getting back I called the office."

"I was working someplace else!" I said, growing irritated and beginning to feel that now I had the right to get really angry. Just as I was on the point of cutting loose in earnest, the telephone rang. I was relieved at the interruption.

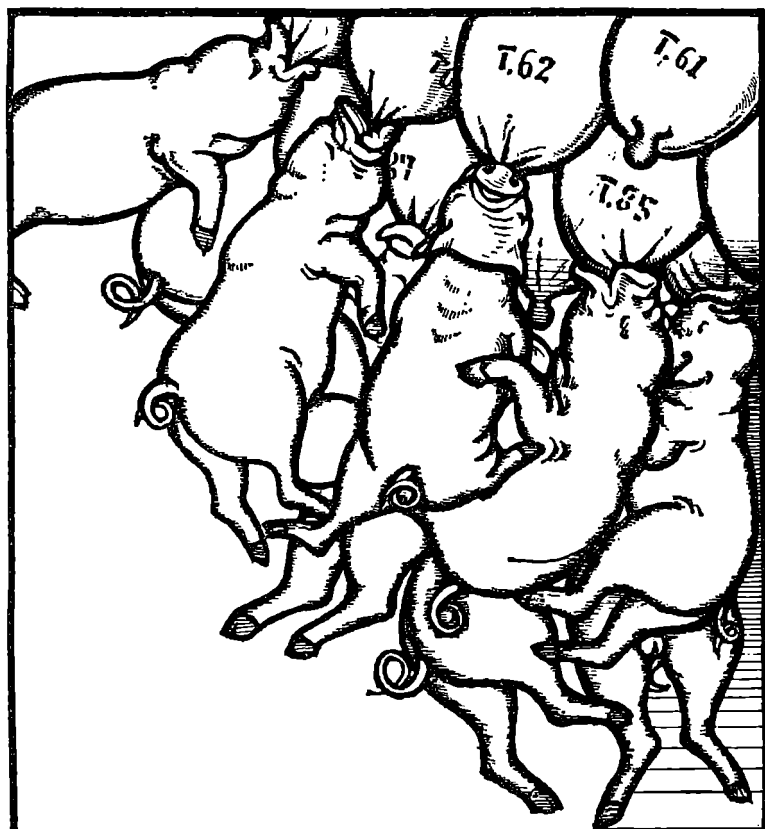
The call came from a newspaper office. Moscow II had predicted the activization of a volcanic cluster on the Pacific floor; and since they wanted to pursue the relationship of that event to the recent unusual temperatures, they were requesting, they said, the co-operation of competent people in Japan. But it was a question of whether the ICT forecaster would or would not respond to this proposal. As usual I refused to comment, saying that anything that concerned the news had to go through the committee attached to the Bureau of Statistics. The feeling of humiliation I experienced every time I received such calls was even stronger today and seemed to have a special meaning.

Outside the window a brightly shining globular cloud, changing its shape, dissolved away before my eyes. Beneath it I could see leafy branches, the roof of the house next door, and the garden. Until just yesterday I had believed this everyday sense of continuity to be supremely trustworthy. But it was different now. If what I had seen last night was actual fact, I should have to admit, I suppose, that this everyday sense of mine was rather a lie that closely resembled reality. Everything was inside out.

It seemed to be my own stupidity somehow that I should be convinced that by having the forecasting machine the world would become more and more closely linked together, more placid, more translucent, like inorganic crystals. The right meaning of the verb *to know* was to observe chaos, not order and regularity.

"It's really something very important. It's about the clinic you were forced to go to yesterday, you remember? I'd like you to think back on just what sort of place it was."

My wife looked at me suspiciously and made no answer. Of course, I couldn't expect her to realize how important the



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question was, and she was quite incapable of imagining that I was involved. Yet unable to offer any explanation to her, I became impatient and irritated. There had been no arbitrary pressure exerted on me to observe the secret strictly, yet it would only make matters all the more complicated to let my wife know the truth. I was depressed just imagining her reaction if she knew, as I did, the whereabouts of our child that had been aborted and purchased.

But I must find out one way or another. Couldn't I concoct something or other?

"Do you think it was really an obstetrical clinic?"

"Why do you ask?" she replied, faintly disturbed.

"Oh, to tell the truth, I wondered if someone weren't being spiteful."

"In what way?"

"There was that old doctor friend of mine, the obstetrician who went insane."

This was a patent lie that under ordinary circumstances I could not have related without laughing, but as I had told it with a straight face, the results were instantaneous. My wife's expression hardened before my eyes. For a woman nothing could be more contemptible. If what I had said were true, she had been put to bed and had the fetus snatched from her half in fun.

"Well, now I do have the feeling, somehow, that it wasn't a real hospital."

"What was it like?"

"Mm," she mused, shaking her head, which she had tilted back, left, and right, and narrowing her eyes. "It was deserted . . . and terribly dark."

"Was it near the seashore, do you think?"

"Yes, I think so."

"Was the building single-storied . . . double-storied?"

"Ah . . . there was one story."

"Weren't there a lot of drums lying around the garden?"

"Mm . . . well . . . I just don't know."

"How was the doctor? Was he a big man?"

"Yes, I guess he was."

"What do you mean? Don't you remember at all?"

"Well, he had me take that strange medicine. I think I remember vaguely, but it's as if it weren't my own memory. Yet I very clearly recollect things that occurred before I was given the medicine. If ever I met that nurse with the mole on her cheek in the street, I'd recognize her immediately."

But I had come across no woman with any mole on her cheek in the Yamamoto Laboratories. There seemed but one way left me. That was to put my wife through the forecasting machine and extricate her memory. But this road was a pretty dangerous one. Halfway down it the girl Kondo Chikako had been poisoned. Was the attempt worth the danger? I wondered.

My decision to put her on the machine was not very rational. It stemmed from the blind anger that rose within me. It was intolerable just to be made to entertain such hypotheses and such misgivings. Everything would have been fine if I had been careful and not let her out of my sight for an instant. Yet I was contemptuous of myself even thinking there might be danger.

"Hurry up and get ready. We're going out," I stated.

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My wife looked at me suspiciously but did not attempt to pry further. Perhaps it was that my abrupt tone permitted no question. She was obliged to comply without explanation.

Yet, as I watched her with her stark expression going downstairs to change her clothes, I could not deny, strangely enough, a feeling of self-justification. Was I seriously trying to protect her or was I simply trying to use her as an instrument? I mused, shaking my head, my conscience guilty with such suspicions. But I could not explain, really, just why I had come to feel this way. Perhaps it was that in my heart I was

already anticipating some dreadful conclusion that must ultimately await us.

It was true that I had lost my confidence in everything. I had made no real judgment. I was simply unreasonably worried, filled with one negative feeling, that of trying to escape at any cost. But I shuddered, wondering just how our child, born an aquan with gills, would ever think of us, its parents, when it grew up; I did not even know whether it was a boy or a girl. Compared with this fate, infanticide was a refined and humane act.

Perspiration dripped from the tip of my nose. I regained my composure. For close to ten minutes I had stood blankly as I was and still had not washed my face. When I went downstairs and brushed my teeth, I felt nauseous, quite as if I had a hangover.

The telephone rang. Was it the extortioner? One of those unpleasant calls where every one of my actions was known? I rushed to the phone without taking time to rinse my mouth. But it was Tomoyasu, of the programming committee.

"I've called you about that proposal for co-operation from Moscow II."

I did not get angry at his cloying tone as I usually did. "It didn't work out?" I parried casually.

"No, no, it hasn't fallen through. We're waiting it out for the present."

It was as usual. Again the papers would take no notice of us.

With this wait-and-see attitude we would never get in the news. General interest was lessening, perhaps because they had been very thorough lately about their propaganda that the forecasting machine was inhuman. But that was of little consequence to me now. I had no time to worry about such things. If that chicken-hearted Tomoyasu, who thought he had got the future by the throat, knew only one hundredth of what I had seen last night. . . . When I said nothing, Tomoyasu continued: "By the way, how is the work coming? I'm looking forward to the meeting day after tomorrow."

"I think I can make an interesting report on basic things like general character elements."

"And what about the murderer?"

From the corner of my lips a white thread of spittle dropped onto the back of my hand. "I'm summing up the report draft today. I'll have Tanomogi present it," I said, abruptly hanging up to avoid further conversation.

The very instant I replaced the receiver, the telephone began to ring again. And this time it was unmistakably a call from the extortioner, with that voice so exactly like my own.

"Professor Katsumi? My, you were awfully quick in answering. It almost looks as if you were expecting my call," chuckled my voice mockingly. Without waiting for an answer it suddenly changed to a normal tone, resembling me more than ever.

"No, it doesn't *look* as though you were. You actually were expecting me to call, weren't you? Anyway, Professor, you're hatching something on the sly that I'd like to warn you about."

It was true. I had been half expecting his threatening call. Every time I was on the point of taking some action, this spiteful interference hampered me. At the same time I anticipated it, I was also at a loss what to do about it. I could think of no one except Tanomogi who up to last night had shared all my activities, who would be able to foresee my plan to put my wife on the forecasting machine. Unless my house had been bugged. However, it would be unnatural for Tanomogi, who had been so ingenious up till now, to reveal suddenly that he himself was behind all this. I shuddered, sensing the presence of some unseen watcher at my very elbow.

"You think I was waiting? It was absolutely accidental, believe me."

"I know. You were on the line just before I called, weren't you?"

I was thrown into confusion. According to the way I saw it, I only thought it at best a tape of the forecasting machine that was speaking with my voice. No matter how it might

object to the state of things, I never dreamt it would respond so perfectly to my words.

"Ah, ha. Surprised?" said the speaker, apparently aware of my confusion. A rush of air struck the mouthpiece, perhaps a laugh. "Do you have some inkling who I am now?"

"Who are you?"

"Who? I wonder. You still don't know? Well then, I'll give you another hint. The call you just received, it was Tomoyasu, of the programming committee."

"Ah! It's Tanomogi! No, of course, you're the machine, just a voice. But it must be Tanomogi pulling the strings. You're there, I know. Come on. Answer me!"

"You're unreasonable. If the one speaking is me, the one listening is me too. I made this call by my own volition. Do you think a machine manipulated by someone could be so quick at repartee? You're talking with your mouth full. You probably stopped in the act of rinsing it out and came to the phone, didn't you? Didn't you? If you want me to, I'll wait while you rinse it. Oh, sorry. I wasn't trying to make fun. But the fact is I am speaking by my own will."

"That's why you should tell me who you are!"

"Yes. Perhaps I should. But haven't you really guessed? No, maybe not. But surely, Professor, you've noticed how exactly my voice resembles your own. Maybe it's some accidental likeness to that of a total stranger, you're thinking, Professor. No, it's all right. Your not trying to learn, your not bending every effort to find out who I really am, and my being obliged to telephone you like this now are after all two sides of the same coin, so to speak. So ultimately the very imparting of this important matter . . ."

"Well then, why don't you come here and meet me face to face? If you did, it'd be a lot easier to talk with you."

"Do you think so? That, unfortunately, is not possible. And as far as the talking goes, it's no more complicated by phone."

"Well then, let's get to the point, shall we?"

"Fine," came the response rather more strongly. "You have made an irrevocable decision."

I realized that I must take care. That my adversary could command at will words worthy of a gangster and the expressions of a government official meant that he was not an ordinary individual, one who would have a sole end and aim. If you want to designate a profession that comes into direct contact with people, penetrating behind the mask of social position and profession, I suppose it would be a detective or a blackmailer. Perhaps by pretending to see through my very thoughts he was trying, more than I expected, to force me to make disadvantageous statements by asking loaded questions.

"Of course," said the speaker, reacting to my silence. He was seized with a fit of muffled coughing. "It's not unreasonable for me to be suspected like this. But it's clear to me. You're on the point now of going out with your wife. I'm right, am I not? Oh no, don't imagine I've got binoculars trained on you from some nearby house. Yet the fact is that at this very moment someone is standing watch in front of your house. Oh, just take a look from the window at the end of the corridor. But quick!"

Thus pressed, I left the receiver and did as I was told. I glimpsed my shadower just as he was going by from left to right, a bored expression on his face. The receiver emitted a sound. I returned, making no noise, and gently picked it up.

"Well?" Despite the fact that I had remained silent, it knew somehow that I had returned. "It's the lad you came to blows with the other day. He's a competent specialist in assassination."

"Where are you calling from, for God's sake?"

Patiently enduring a stiffness in my back that had spread to my neck, I tried to pinpoint in my mind's eye those houses that had windows from which I could be seen telephoning.

"No, no. I told you I'm not calling from any place nearby. Here, a fire engine's going by. I'll open the window. Hear it? But you can't at your place."

"A trick like that would be easy with a tape recorder."

"Quite right. Well then, shall I tell you my number? When

you know the exchange and number, your doubts will be gone. Hang up and redial this number. All right?"

"That's enough. Drop it."

"Oh no, I can't," said the voice, suddenly adopting a warning tone. "This is the crucial point. I can see everything."

"And so?"

"Mm. You don't get it, do you." The threatening voice gave a deep sigh. There was something so poignant about the tone that I was not bothered by the form of address, which had changed to one of equality with me. "Even though I've said this much, you still don't have any idea? This isn't me. It's you yourself. I am you!"

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For some time I remained motionless. Not only my body but my thoughts too stood stark still. It was not a simple feeling of surprise. How shall I say? It was an extraordinary sensation, a mixture of calm and confusion, as if I had known all along, and yet as if I were ready to go insane. I might compare the calm to the humorous and ridiculous, as when one notices that someone one took to be an acquaintance was in fact one's very self reflected in a mirror. And the confusion was comparable to a disagreeably bitter sense of despair as if in a dream I had become a dead soul, hovering near the ceiling, looking down at my own corpse.

With difficulty I gropingly assembled my words.

"Then . . . you're a composite of myself, constructed by the forecasting machine."

"You could say that, but it's not so simple. No ordinary composite could talk back and forth like this, could it?"

Without thinking, I nodded back at the invisible speaker. "But you're definitely not capable of perception, are you?"

"Heavens no," said the voice, sniffing indistinctly. "I have no actual body. Just as you supposed, I'm merely a prere-

corded tape. Of course I wouldn't have anything so fine as perception. But I possess reliability and certainty that go beyond perception. I know what's going on in your thoughts long before you think them. No matter how you may try to behave independently, you can't take a single step outside the prearranged program in me."

"And who drew up the draft of what you're saying?"

"No one. Someone who inevitably came into existence out of yourself."

"Well then . . ."

"Well, I have the value of a second prediction which, through a first prediction, foretells your future. In short, I am you. I am a you that knows everything about you."

Suddenly I felt a long way away, a small, indistinct object. The place I had been until now was bulky and ponderous, and a slick pain went round and round with the irritating speed of a barber pole.

"But it was someone like Tanomogi who caused this you to make the call, wasn't it?"

"You're still saying things like that. Evidently you haven't yet fully grasped the situation. My volition is your volition. But you still haven't realized it. I am only doing as you probably would if you knew your own future."

"How does a recording machine take action?"

"Don't be fatuous. Of course it depends on someone. As you guessed, it's Tanomogi who lends a hand. But don't think this is some machination of his. All his actions up till now have been at my request. And my commands are nothing more than your commands. If you're suspicious of Tanomogi, you might as well be suspicious of yourself."

"All right, have it your way. But why did you try to throw me into confusion by making those threatening calls?"

"I wasn't trying to confuse you. I was warning you."

"There was no need to be so roundabout. Since you know my future, you also know my enemies, don't you? Wasn't there a more straightforward way of going about it?"

"Enemies . . . your usual remark. The enemy's inside. This

very way of thinking of things is in fact our enemy. I was just trying to save you from catastrophe. Oh yes, just in time. Your wife Sadako's there. No, no matter how much I may be you, I suppose it's offensive for me to talk like this. She's ready and waiting by the door. She seems to be listening with all her ears to this strange call. I'd like to ask her something. Call her over and put her on the line, will you?"

"I certainly will not."

"Hm. I thought you'd say that. If we tell her something, we've got to tell her everything. But you don't have the courage for that. Actually, you haven't yet told her your reason for going out, have you? Of course, at this point there's no need to go out any more."

"Why? I don't intend to pass over a slight like this in silence."

"All right. If you don't want to call her to the phone, then I'll let you ask her yourself. Now, about that fake nurse who took her in. I seem to remember your wife saying something to the effect that she had a mole on her cheek, but I wonder if she wasn't mistaken. The mole was located above and to the side of the upper lip, and not on the cheek, wasn't it?"

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I panted laboriously as if I had forgotten to breathe. From a great distance a faint beam of light shone in, and the aspect of my surroundings underwent a complete change. A woman with a mole on her upper lip, not on her cheek. Perhaps there had been such an illusion, memory being as vague as it is. If so, then was the nurse my assistant, Wada Katsuko? Wada had a mole on her upper lip. It distressed her, and she had the habit of bending her head so that it would not be conspicuous. When she did that, naturally the mole seemed to be on the lower part of her face. Vaguely remembered, it could well have shifted to her cheek.

"Oh, Sadako!" I cried out, shaken, in a voice that could be heard throughout the house. "That nurse's mole . . ."

Immediately the door before me moved, and my wife's surprised face peeked in.

"What's wrong? You frightened me."

"The mole . . . it wasn't on the cheek, but about here, wasn't it?"

"Yes, now that you mention it, I think it was."

"Tell me. Where was it, precisely?"

"I'd remember if I saw it, but . . . yes, I really feel it was there."

"Ah, exactly!" interjected the I on the telephone.

I hurriedly waved my hand, trying to shoo my wife away. But she stared back at me without moving, a cold glint in her eye. I did not understand why she wore such an expression on her face. Keeping the receiver pressed hard against my ear, I remained silent, my back turned toward her.

"Well," continued the voice, the other I, "the woman was Wada as you surmised. This year, on New Year's day, when the rest of the members of the Institute all came to present their respects, Wada unexpectedly came down with a cold and couldn't come with them. Consequently your wife couldn't have known her. If this is clear, then it's also clear that the idea of whether she's your enemy or friend is of little use, isn't it?"

"All right, if that's the way it is. She did what she did at my, that is, your request."

"Something you don't agree with?"

I glanced guardedly around. My wife was no longer there.

"Well, it's just that everything seems to be working against me."

"It would seem so," the machine said calmly in—was it my imagination?—a regretful tone. "For example, you're your own enemy, there's no way out of it. We've all exerted as much effort as we can for you."

"I know that. That's enough!" Suddenly I was unreasonably angry. "What's your conclusion? I've had enough of going

round in circles. For God's sake, what are you saying I should do?"

"Curious. I thought the conclusion was already clear. You don't have to cause trouble by putting your wife on the machine."

"Why would that cause trouble?"

"But it would, wouldn't it? Or were you thinking she'd meekly let herself be manipulated without any explanation? What a simpleton you are if you did. You apparently flatter yourself on being a cold-hearted man, capable of feigning ignorance at will, but you're simply a boring reactionary. At this point your wife will not permit her mind to be looked into. Why? Because there are things in her heart she doesn't want you to see. No, don't worry, nothing to breed unfaithfulness or jealousy. But maybe they're worse than that: resignation and contempt."

"That's absurd!"

"No. The ambush is always where you least expect it. The obstacle in an unexpected place is the turning point of destiny. In order to reason your wife into compliance, you can't help revealing just a bit of the truth. And the promise that you made at the Yamamoto Laboratories is broken in spite of yourself."

"If you base yourself on such an hypothesis . . ."

"Oh, no, it's no hypothesis. It's quite a certainty. It amounts to a conclusion. If I hadn't made this telephone call, you would surely have broken your promise and revealed something. Of course, there was still a way out of the difficulty. You might, for instance, have previously made a request, through Professor Yamamoto, for permission for your wife to observe, but that would hardly seem to have been your intention. Your thoughts are turned in just the opposite direction. They are, aren't they? Although you've visited the laboratory, you're beginning to think that what until now has been ordinary is perhaps an upside-down reality. You are thinking only of escaping to an upside-down world, severing your links with the future by murdering your own child. Do you remember last night Wada saying as she was talking with you that this was a

trial? It was indeed, a real trial. And perhaps the verdict is what I'm saying now. You're a dyed-in-the-wool reactionary who bears no resemblance to the designer of the forecasting machine. A really amazingly reactionary man."

"Did you go to the trouble of calling me just to preach like this?"

"Don't talk as if you were someone else. I'm you, you know. All right. I'd like to minimize the number of victims, anyway. Now that you know that the nurse was Wada, there's no longer any need to put your wife on the machine. If you'll agree, we've made that much progress."

"But then you mean that my child was put into an artificial placenta for aquans?"

"Precisely."

"But why? Why was it necessary to do that?"

"I knew you would want to know the reason. I understand that Professor Yamamoto obviously anticipated you would ask questions about the creation of human life outside the womb and that he laughed at your timidity in not doing so. So I have made another request for you to see the breeding of aquatic humans. We are expected to submit separate requests. Perhaps the screening is already completed, but for the answer you'd better ask the committee directly. Someone will pick you up after five."

"Just one more thing: Who, for God's sake murdered the accountant?"

"Tanomogi, of course. But not so fast, it was I, that is you, who gave the order."

"I didn't know that!"

"Even if you didn't, I can't do anything about it, that's the way it was."

"Tanomogi's there, isn't he? He just coughed."

"No. This is Wada."

"I don't care who it is. Put him on immediately!"

"Do you want to take it?" asked the machine as if turning around. At once it was answered by Wada's nasal peal of laughter. "But Professor, you're talking to yourself."

It was quite true. Since I was already there, to appear in person would be comical no matter how you looked at it. But what should my position be? Suddenly my sense of touch was dulled; and the receiver, sticky with perspiration, seemed about to slip from my grasp. As I endeavored hastily to catch it, I cut the connection. I tried calling back, but only a low buzzing answered me.

Perhaps it was best so. If the machine was my second self and knew everything about me, it had certainly anticipated this blunder too. But as far as I was concerned, I still had questions to ask. Supposing this other I had ordered the murder of the accountant, that would mean at least that it was already in existence before that time. That is, it must mean that this I already existed before it occurred to me to forecast the future of individuals. How in heaven's name to pinpoint exactly when it had come into existence? And who was responsible for its birth?

I tried phoning Tanomogi. He was out. Of course Wada was not in either.

My wife called through the door.

"I'm ready now."

"We're not going."

"We're not going . . . ? What does that mean?"

"It means you don't have to come along."

"I see. That was a very strange call, wasn't it?"

I opened the door and stood in front of the entrance to the living room. My wife averted her eyes, and taking off the clasp of her sash, flung it beside the dressing table.

"Just a minute. Are you being contemptuous of me?"

My wife looked up in surprise and then, as if she weren't at all in the mood for it, laughed, but with her voice alone. "You've got white tooth powder all around your mouth."

I was reduced to insignificance. I was still trying to say something, but I had been reduced to insignificance. Without dreaming that these faces we showed to each other—my wife's depressing, laughing countenance and my own stupid one

with its tooth powder—we would never see again, I returned to the bathroom, blocking her out with the door. I rinsed my mouth and began to shave.

31

I called the research room at the Institute every half hour, trying to find where Tanomogi was. I filled the long intervals by reading the newspaper. The usual: INTERNATIONAL AGREEMENTS, TERRITORIAL WATER PROBLEMS, FINANCIAL SPIES, EXTRAORDINARY HEAT WAVE, RISE OF SEA LEVEL, EARTHQUAKE, then BEAUTY, MURDER, FIRE, and THE TALE OF A PROUD SPIRIT. However, it was curious, for this unprepossessing jumble of events made me feel rather sentimental. At forty-six I had glimpsed a bit of the future, yet I could not help but think that all these everyday occurrences belonged to a remote and distant past. I felt as if I had been left behind, exhausted.

At some point I dozed off. A wet smudge the size of my face appeared on the newspaper crumpled under my head. Yoshio, just home from school, had flung aside his briefcase and was at once on the point of rushing out again. My wife's irritated voice trailed after him. I rose involuntarily. I wanted to call Yoshio and speak to him, but in the next instant his light footfalls had faded away down some distant lane.

I went downstairs. My wife called out from the kitchen: "Do you want something to eat?"

"No. Not now. Later, I think."

Slipping on a pair of clogs, I went out. My intention was just to stroll a little while around the neighborhood and at the same time dry out my shirt, which was soaked with perspiration.

No sooner had I stepped out than my eye caught the shadow. At this point he was coming toward me at a languid pace, a bored look on his face, and every two or three steps he would kick pebbles on the pavement right and left. He

noticed me and stopped in surprise. I approached him, and this time he did not take to his heels but nodded his head and smiled with a perplexed air.

"What are you up to?"

"Uh . . ."

I tried to pass by, ignoring him. But he turned on his heels and fell into step beside me. Well, let him do as he liked. He wouldn't be fool enough to try anything in a place like this. I could hear the ceaseless shouting of children at play, and a number of pedestrians were to be seen. After we had walked along for some time, I remarked, with the intention of being disagreeable, how smoothly he had gotten away the other day, but he laughed loudly in the most guileless way.

"Oh, no. I just did what they told me."

"Your assassination technique is quite good, obviously."

"I only follow orders."

"What are your orders now, then?"

"Well . . ." He suddenly lowered his eyes in confusion.

"Yeah, well, I was told to keep an eye on you."

"Who told you to do that?"

"Mm. You yourself, wasn't it, Professor?"

So that was it. This other I was apparently willing to accept any order, even a murder. But I had absolutely no idea from where in me such a personality could be drawn. If I were not so oppressed and overwhelmed, my agony would have flamed hotter than the air around me, and I would have begun to tremble like someone consumed with fever.

"Incidentally, how many men would you say you've killed already?"

"Not a single one, yet, since I came to work for you."

I sighed in relief. "But what about before?"

"Eleven. Yeah. My gimmick is: no traces. I get 'em unconscious. I block the nose. I block the mouth. Suffocation. It's a pain in the ass, but it's a sure thing. When I fake it like he's drowned I don't just stop up his nose, I blow water up it through a rubber tube. Press on his chest, like artificial breathing, and get the water to the lungs. Believe me, there's no way

to tell he didn't drown. I've got a way to strangle too. Press with your palm, flat like this, here around the Adam's apple, and there's no marks. It takes longer. You get resistance. Sometimes you've got to calm him down. But be careful or he conks out on you the wrong way. Break his finger joints. Dig out an eye with a fingernail. That's the way. No instruments, ever. Instruments always turn up again. Work with my bare hands. Might sound like boasting, but I can usually tell right away what method to use to break somebody down. Sort of hypnotism, I guess. Press on a vital part and he's out of it. Take you, for instance, Prof. I know what I'd do, but, well, can't tell you everything. If you know too much I'm not so effective. But you wouldn't care, would you, Professor, huh? Certainly wouldn't matter to me. In your case, it'd be some place in the face or around the side of the chest, I'd say."

What for God's sake had my other self wanted in hiring such a man? He had been employed and had not once been put to work, so it was conceivable that the purpose had been to have him as my bodyguard; it was also conceivable that he was to keep special watch on me. Whichever it was, it was all very strange. There was no reason for me to be brazenly walking around with a fellow like this.

"All right, you can go home now."

"Oh no, I don't go for that," he chuckled, looking at me craftily out of the corner of his eye. "Didn't you say yourself, Professor, I wasn't supposed to pay attention to any order unless it was written, even your own? I don't go along with that. Say, if you've got the time, what about standing me to a little snack? Forgot my lunch when I left this morning. I probably shouldn't be eating, but if I go with you that won't be against orders. What about it, Professor? Anything's O.K. with me: noodles, stew. . . ."

Reasoning that it would be troublesome to refuse and that furthermore I stood to gain by winning him over, I offered him a bowl of noodles at a nearby shop. It occurred to me that I had had nothing to eat since morning myself. I was not hungry, but being in the restaurant, I ordered a plate of buck-

wheat noodles. In spite of the heat, my bloodthirsty companion ordered some sort of noodle soup and vegetables, which he sprinkled bright red with pepper and slowly ate, one spoonful after the other, as if he were testing them. He was concentrating so hard he did not even notice the fly crawling around on his face. More than murderer, he was a spooky character.

The daytime television matinee relayed from the stage had just finished, and I realized it was five o'clock. Automatically the man rose and looked around. "I'm supposed to call at five and see where I take you tonight," he said nervously, and hurrying to the telephone, he began to dial. He spoke a word or two, nodded, then at once hung up and came back to the table, a relieved expression on his face. "Everyone's there; they want you over right away."

"Over? Where?"

"You say where. It was all arranged, wasn't it? I was supposed to come and get you at five."

This was the man then who must have been sent for me by my other self in concert with Yamamoto and his group of aquan breeders. It was all so simple and yet so terribly circuitous.

"But who did you call just now?"

"Professor Tanomogi, of course."

"Tanomogi? Why Tanomogi? Does he have anything to do with a committee?"

"Yeah, well . . ."

"Do you know the place?"

"Sure I do."

With a sense of being hurried, I hastily led the way out of the shop and at once hailed a taxi. Gradually the puzzle ring was being reassembled, the hunter pulling the strings of the trap was showing himself, the trunk was becoming visible through the welter of branches. Things were falling into place; we would now see what they added up to. I was not at all concerned either about having come out in a wrinkled shirt and clogs nor that I had only thirty yen left after paying the

check at the noodle shop. Tanomogi would be there. I would get him to pay the taxi fare.

As one would expect of an assassin, my guide was thoroughly acquainted with the streets. He deliberately chose the narrower lanes, making the taxi weave here to the right, there to the left. But as the direction seemed to be rather different from the one I imagined—the one to the site of the Yamamoto Laboratories on the reclaimed land—I gradually began to feel nervous. Abruptly we came out on a street I recognized, a main artery I traveled mornings and evenings. "Turn there . . . at that corner with the cigarette store," ordered my companion over the driver's shoulder. "In front of the white fence . . . there, on the right."

"Don't be funny," I cried out involuntarily in my confusion, placing my hands on the back of the seat before me. "This is the ICT annex. It's my own office."

"Right," said my companion, shifting to the corner, "but Mr. Tanomogi said here, so here we are."

It was no use arguing, for there were no grounds for claiming a mistake had been made. Anyway, I decided to get out and question the guard. He confirmed that a meeting was in progress. There was apparently no mistake, for he said he had been told to let them know as soon as I arrived. My guide nodded in apparent relief, intently rubbing his jaw.

"What room is it?"

"Sir, I think it's the room with the forecasting machine on the second floor."

The windows, reflecting the thin, darkening clouds, shone blankly and I could see nothing.

Instructing the guard to pay the taxi fare for me, I set out. When I turned and looked over my shoulder, he was staring at my wooden clogs in amazement. And the hired assassin, standing by his side looking amiable, was laughing, his two long arms hanging limply by his sides.

At the entrance, I changed into the straw sandals provided for visitors.

On my way I looked in at the data room downstairs. The

always diligent Kimura, with about four other younger workers, was devotedly working at classifying and marking a mass of miscellaneous materials and data, though they could not know when or for what purpose they would ever be used. This was, as it were, the kitchen that provided sustenance and information for the forecasting machine. They were immersed in factual if monotonous work, which, as long as they believed in facts alone, was satisfying. They were little concerned whether the machine was nourished or given indigestion by such facts. To tell the truth, I too preferred this kind of work. The examination room was empty.

The corridor on the second floor, which had a window only at one end, was already dark. I listened, but there were no suspicious sounds, only those from the street. Treading quietly, I arrived at the door to the room and tried to peek through the keyhole, but the view was blocked by the back of someone's shirt and I could see nothing.

As I placed my hand on the knob, I repeated quickly to myself what I was going to say: Come, come, what's going on here? Who approved this, for heaven's sake? It looks like some sort of meeting. There's no reason for me to give this room over to a meeting I've never even heard about. In the first place I'm under strict government control; every single time I use this forecasting machine myself, I've got to report it to the authorities. Now I'd like an explanation. I can't let you do whatever you want. I don't know what authority you people have, but this one is sure: I'm the one in charge here.

Calculating the effectiveness of this sally, I thrust open the door in a single movement. A cool breeze brushed my cheeks and bathed my eyes. But I stood there dumbfounded; not a word of what I intended to say came to my lips. The sight before me was not at all what I had anticipated.

Four men and a girl were looking intently at me with smiling faces. All of them were people I knew well, very well. The tense scene I had imagined was simply nonexistent.

In two chairs in front of the desk, on the left as I faced them, sat Professor Yamamoto, in charge of the creation of

life outside the womb, and Wada Katsuko. In a hollow of the machine stood Tanomogi, facing me. Then there was Aiba, Tanomogi's favorite. When I spied Tomoyasu, of the programming committee, smiling self-consciously in the corner to the right next to the television screen, I was astounded. I was thoroughly disgusted with my own stupidity in having seen in him merely a bureaucratic servant.

It was all well enough that the murderer had shown his silhouette in the darkness; the fact that I had not noticed him as we lived our lives together was intolerable. I was at a loss. I had no notion how best to cope with the situation. Suddenly it occurred to me: The most fearful of monsters is the well-known friend slightly altered.

"We've been expecting you," said Tanomogi, taking a short step forward and offering me the middle seat that was empty. The others shifted their positions accordingly and expressed their welcome. Instantly my sense of ease returned.

After first paying my respects to Professor Yamamoto, I looked around at everyone in a lordly manner. "For heaven's sake, what is this gathering today?" I inquired as I seated myself in the center chair.

"As you were told on the telephone a little while ago, we have been screening your application for a visiting permit to see the aquan breeding site," said Wada quickly in her typically overserious tone.

"Yes," continued Professor Yamamoto at once, "we're complying with your request, Professor." He nodded, an affable smile on his large face as if he had reconciled himself to it.

At once it clouded over again. Something was wrong, as I had thought. I couldn't follow this too sudden change in emotion. The expression on my face was set, and my heart sank within me.

"The formal designation of this gathering," said Tanomogi, taking over, "might be called the Administrative Committee of the Society for the Exploitation of the Sea Floor—Regular Meeting of the ICT Branch. But that's too long, and besides it doesn't really express the point of our work very well. We

have consequently decided to name ourselves simply the Branch Committee."

"Even though we're called branch, we're considered rather important," injected Aiba.

"Yes, I'm also on the main committee," said Professor Yamamoto, swaying intently back and forth. "Since the forecasting-machine branch is very important, I was instructed to attend your meetings as a special observer."

"Who gave you permission to use this place?" I murmured softly, lowering my eyes and looking in the vicinity of Tanomogi's knees beside me.

At once the speaker of the forecasting machine began to talk: "I did."

"Your second self, Professor," said Tomoyasu, looking up apologetically at the loudspeaker.

An embarrassed silence reigned; I thought it a blessing. I was overcome with confusion at my seedy appearance.

Professor Yamamoto struck a match. "Shall we begin?" said Tanomogi softly.

Aiba switched on the recording machine.

"Now I think there is no need to adhere to formality." Tanomogi was manifestly the chairman of the session. "The point of today's discussion is the screening report on Professor Katsumi's application for a visiting permit and the action to be taken on it."

"The action *is* the conclusion. It is not a subject for discussion," interjected the forecasting machine in my voice.

"It's true, the action to be taken only has to be carried out," agreed Wada, winding the hair on her forehead around the end of her finger.

"Quite true. But the committee have the responsibility of explaining. If this action is not a subject for discussion, then shall we say the first point of order is the defendant's explanation? Unfortunately we have already concluded that the application for a visitor's permit is to be rejected. The reason is based on the prevention of a crime, for there is danger that

the Professor, with malice aforethought, will commit the heinous crime of infanticide."

I swallowed and looked up. But I could find no words to express myself.

"In order that you may be fully cognizant of the situation," said Tanomogi soothingly, "we have decided to have the future of the aquans forecast and let you watch the televised results. This is only the resolution of the Branch Committee, but we think that you will understand much better than by actually visiting. Then after that comes 'the action to be taken' which we spoke about a while ago. Of course, before that we will fully explain the process that led us to this conclusion. And we will also inform you, perhaps at the same time, of the real facts surrounding the incidents that have occurred in the last few days."

"You're the real criminal," I shouted in a shrill voice like that of an old man; it surprised even me.

"It's going to be a problem if you think you can take the murder case out of context. You've got to consider our motives in the total framework."

"So," said Wada, shaking her head in vexation, "shouldn't we start with what Professor Katsumi is most suspicious of? When and why this second self of his was made?"

Yes, that indeed was what I wanted most of all to know. But how exasperating this feeling of being seen through. I could not restrain myself when I thought how I had been treated like some ignoramus up to now even by someone the likes of Wada. "Just a minute," I snapped, brushing her aside. "I prefer to know just what in the name of God this 'action to be taken' is."

"Ah, well . . ." Tanomogi looked around embarrassedly. Everyone stared at his fingernails in silence. Finally, taking the quietness as perhaps a sign of approbation, he continued reluctantly, running his tongue over his lips. "Our conclusion is—you're going to have to die."

"Die? What a stupid . . ."

Without thinking, I started to rise; but not being overly uneasy, I uttered a sarcastic laugh.

"We can now discuss the reasons."

"No thanks!"

I should just stand up and leave at once, ignoring whatever was said to me. What could they do? Nothing would happen. There was no reason for anything to. But when I looked at the fixed, ominous expression on everyone, I was suddenly afraid.

"But, sir," said Wada, leaning forward, "don't give up yet. You've got to hold out till the end."

Everyone nodded with serious faces.

"That's right," said Tanomogi encouragingly, "the conclusion is after all logical, and logic differs depending on the hypotheses. We intend to exert all our efforts to save you, sir. Don't give up hope. What we're hoping for is that now you know the conclusion, you yourself will find premises which might change our resolution. So now I'd like to have you listen."

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But logic couldn't commit murder. At least the logic of ordering me to death didn't hold up. These people were making a terrible mistake. Apparently, my being held there was not to struggle to refute their logic, for I took what they said seriously. Anyway, two people had already been killed without effort, a fetus had been stolen, and furthermore the master assassin had been brought into the picture. Be the logic what it may, if they wanted to they could easily arrange my killing. Actually it was humiliating just listening to them. But somehow I was unable to stomp out of the room. I had the feeling that time itself was standing still with my motionlessness.

"Now let me explain things in the right order," continued Tanomogi restlessly, as if fearing an interruption. "I learned

about the existence of this organization in September of last year. Yes, just about the time the forecasting machine was almost completed, and we were able to demonstrate breaking the water glass on the picture tube. Perhaps you remember. Wada had been recommended by Professor Yamamoto of Central Welfare and had come to work at the Institute. I was first told about the organization by Wada."

Wada's gaze swept over me searchingly. "But I didn't tell you right away; it was only after rather carefully testing you," she said to Tanomogi.

"Yes, I know." He nodded at her obliquely. "It was a very hard test. So much so that at first I was confused and wondered if she really wanted me. Anyway she told me, one after the other, fantastically romantic tales about our future that the machine might describe. I was convinced she was a poet. I took her rather offhandedly, while all the time she was testing me."

"It was a test to see to what point he could tolerate a future cut off from the past. We were trying to find out which he was more interested in, forecasts or the forecasting machine. Of course, we ran a provisional test on you too, sir. I wonder if you remember?"

Now that she spoke of it, I had the feeling I did. I could not recollect anything concrete, but I did recall thinking it curious that the girl was talking utter nonsense. I tried to answer, but no matter how I forced my tongue the words would simply not come out.

"But you failed, Professor. You manifestly didn't even try to consider the possibility that the future might be at odds with the present. How shall I say? If the forecasting machine doesn't receive a question, it can't produce an answer. I mean it can't think up a question by itself. So in order for the machine actually to function, it's a question of the questioner's competence. In that capacity we consider you quite deficient in the necessary qualities."

"You're wrong. The most important thing is facts," I rasped. "Forecasting is not telling fairy tales. It's the logical conclusion

that proceeds from facts, always facts! What do you mean by this nonsense? It's utter rot."

"I wonder. I wonder if the machine can react to facts alone. Isn't it necessary to convert these facts into the form of questions?"

"That's enough. Let me remind you that I'm a mere technician, not a philosopher."

"Quite true. So your method of choosing subjects always takes a set pattern."

"What do you mean saying things like that?" I tried to speak firmly, leaning forward and placing one arm on the back of the chair; but my breath reversed and the words stuck deep in my throat. "I don't care what you say, Tanomogi, it's you. You're the murderer. And you, Wada, you're the ringleader who spirited my child away. I consider you all mad. And you, Tomoyasu, I'm astonished at your duplicity. You had no scruples about double-crossing me. I don't know what to say!"

"I don't know about the rest, but as far as I'm concerned, I didn't want to aggravate the situation," said Tomoyasu, looking down at the floor as if wanting help.

"That's true," continued Professor Yamamoto, holding up an open hand as if to push me back. "Mr. Tomoyasu was in a very difficult situation. Since he wanted to keep this double-layered organization from being conspicuous, he adopted what at first glance might be an equivocal attitude."

"A double-layered organization?"

"Well, just a minute. Let's start at the beginning," said Tanomogi, passing beside me. In front of the door he turned around and stood resting the knuckles of his fingers on the corner of the worktable. "Of course, I think you may have had a general idea, but some time ago we started secretly operating the forecasting machine for the benefit of the Society for the Exploitation of the Sea Floor. No, the meter's not correct. We were able to turn it back any time we wanted with the reversing device."

"Whoever gave you permission to act on your own authority like that?"

"I was put in charge of this secret organization by the authorities. I was against it at first, of course. No matter how much they claimed that their mandate exceeds the government's, I regretted being appointed without your permission. But it was an urgent request from the Society. It was over-eager, you see, even though it knew that the trend toward the development of submarine colonies was irreversible. It was apprehensive, because it didn't see clearly what the future would bring. When it heard the rumor that the forecasting machine had been completed, it rushed right over. But it was out of the question to make an offer publicly, because the organization was absolutely secret. Then they sent Wada to sound me out; and as she said I was suitable, I was given the appointment. But I refused. I wanted to prevail on you to take charge, and so did the responsible men behind the organization. It was disagreeable since we were working together. And I had real misgivings too that you would see through the information that was going into the machine. Of course, with your strong sense of duty, you would absolutely never have operated the machine without the permission of the programming committee."

"You see, sir," interrupted Wada in an irritated tone, "you were a lot more interested in the machine than concerned about the future."

"Come, come. Let's not talk like that," said Tanomogi, cutting her off. "Now, anticipating this, the Society, through Tomoyasu, deliberately devised a way to freeze the committee. But it was not a question of leaving them in such an unnatural state too long. If somehow things were not brought to a conclusion . . ."

"Oh yes, and then you decided to kill me, I suppose."

"Not at all. It was not until much later that we realized there was no other choice but to have you die. Even Wada, who spoke the way she did, was very worried about you. The Society were earnestly planning legal steps for your expulsion, but we were not in agreement. We simply couldn't do anything so cruel. We knew how important this forecasting ma-

chine was to you. It was Wada herself who proposed that we analyze you, put you on the machine and try to predict your future. We didn't get very good results with the test; it was a little irresponsible to reach conclusions with such approximative methods. More precisely, we decided to have the machine predict what action you would take in the event you had specific knowledge concerning the development of submarine colonies."

"And what happened?"

"Ah . . . ," faltered Tanomogi, his lips pursed. He drew a number of little squares side by side on the corner of the table.

"What's that? An earthquake?" cried Aiba suddenly, looking up at the ceiling. As he spoke I was aware of the little round movements of an earthquake moving up my legs to my knees. It lasted about four seconds and then suddenly stopped.

"And then what?" I urged, but Tanomogi nodded at me in confusion.

"Well, then . . . the results, I am sure you realize, were bad."

"What was bad about them?"

"To put it simply, sir, you couldn't stand the future that was predicted. In other words, you're able to envisage the future only as a continuation of day-in, day-out life. With that limitation, though you placed such great expectations on the forecasting machine, you were unable to accept a rapidly evolving future, one which may well destroy, deny the present—a severed future. As far as programming is concerned, you are perhaps the greatest specialist we have, but programming is simply the operation of reducing the qualitative to the quantitative. If you don't once again synthesize quantitative into qualitative you'll never really grasp the future. It's self-evident, but you were an optimist on this point. You could only consider the future as a mechanical extension of quantitative facts. As a result you were able, conceptually, to take great interest in forecasting the future, but you were quite incapable of standing the real future."

"I don't understand. What are you trying to say? I don't understand at all."

"Just a minute. I'll explain in concrete terms. Later I plan to show you on television. Not only did you take an openly hostile position, but ultimately you even began to doubt the competency of the machine to predict."

"I don't know why the past tense is used like this."

"It can't be helped. The forecasting machine has made the prediction. In order to obstruct the materializing of the future, you broke your promise; that is to say, you were half decided a few hours ago to expose the secret of the organization."

"What difference does it make? There's nothing wrong in opposing submarine colonies that use aquans. Even my opposition is a part of any eventual future, one that would be a second forecast based on a set of new conditions. I believe that there is value in using the forecasting machine to prevent such a ridiculous future before it occurs."

"Are you saying the forecasting machine is not to create the future but to preserve the present?"

"Well, yes, he is," broke in Wada impatiently. "After all, that's fundamentally how Professor Katsumi thinks. It's obviously useless to say anything more."

"This is a pretty one-sided discussion," I said, barely able to control my rising anger. "This future with the submarine colonies isn't necessarily the only one. There's nothing more dangerous than trying to monopolize forecasting. Haven't I always warned about that? That's fascism. It's like giving a statesman divine power. Why don't you try forecasting a future where the secret's revealed?"

"But we did," blurted out Tanomogi tonelessly. "The result was that you were killed, sir."

"By whom?"

"The killer waiting outside."

So they were going to kill me. And they had an astounding reason to boot. Since the prediction had been made, I could understand their trying to avoid it; but deliberately acting in concert with it and committing murder was quite beyond me. In short, the prediction was no more than a pretext to kill me.

"That's wrong," suddenly said my second voice through the speaker as if the thought had just occurred to it. I was panic-stricken; I had the sensation that the very clothes I was wearing had suddenly become transparent.

"*What* is wrong?"

"What you were just thinking."

The fixed stares of Tanomogi and the others pierced me.

"At any rate," continued the voice in the machine, "there's some misunderstanding. Tanomogi and the others did not at all submit tamely to the prediction. Far from it. They began to consider quite earnestly whether there wasn't some way of saving you. Then they came and consulted me."

"It's your second self, sir," interjected Tanomogi rapidly. "You're the one, if anyone is, who should give your own fate serious consideration. Besides, I know you better than you know yourself."

"Evidently," said the voice. "And what follows is almost all based on my plans. This 'I' is an ideal projection of you, Katsumi. In other words, you could say it is a will you're unconscious of yourself."

"Murder . . . ? The trap . . . ?" I gasped.

"True, it's no one's responsibility. You did it yourself."

"All right, let's stop playing games," I snapped, looking sharply at Tanomogi for some reason. He lowered his eyes and pressed his fingers against his temples.

"No, actually it was a theoretical plan," said the voice calmly but with a tenacity that kneaded my viscera. "It's true. Just think about it. Everything was carried through with one

purpose in mind. The object was how we could create conditions under which you would not reveal this secret organization after learning the future. Consequently even the first murder clearly had two aims. First, to make you realize that you could not rely on the outside world come what may and that you were suspected as an accomplice. Secondly, to prepare you psychologically for what came next by suggesting the existence of the fetus broker."

"But I still don't understand. I myself planned on predicting the private future of someone that day, the man who was killed, a fellow I had met quite by accident in the street."

"Wrong. You must have got that hint from the machine. The suggestion was devised beforehand in anticipation of such a situation; if you hadn't got the idea, Tanomogi would have got it for you. And about the man. Needless to say, Tanomogi very cleverly induced you to respond to suggestion. The suspicious accountant, in checking the bankbook, ultimately cornered the girl into a confession. The girl thoughtlessly blurted out the business about the fetus trade, and the man then knew our secret. By the law of the organization both had to be silenced sooner or later. The man was summoned beforehand to the café on the pretext of being introduced to the people at the hospital, and Tanomogi took you there. Then you know what happened after that. Tanomogi killed the man, and I made the threatening phone calls to you. The girl took the medicine given her by Aiba and meekly committed suicide."

"But it's all too inhuman!"

"Yes, perhaps it is."

"Whatever justice you claim, you can't rationalize murder."

"Nor can you dispose of murder in general terms like that. Murder is bad not because you deprive the victim of physical life, but because you deprive him of his future. Consider that life is dear to us all; life is in effect the future. Actually you were planning to put an end to your child's days, weren't you?"

"That's a different story."

"Why? It's not at all. Since you can't face this future, you are calmly able to disregard his life. In these changing times where there's no single future—times where you have to sacrifice one future to save another—murder is unavoidable. Well, isn't it? If, at the time, the girl hadn't been good enough to die, what would you have done? I wonder. You would have immediately put her on the machine, and getting wind of the existence of the aquans, set up a big hue and cry, wouldn't you?"

"Naturally."

"You are honest. Precisely. And public feelings would flare up, mobs would attack the aquan breeding farms, and the future would be entirely stamped out."

"How do you know that?"

"The machine you made told us."

"Even so, you've no right to make the present preside over a future that's not yet even begun."

"It's not a question of right but of will."

"All the more reason then."

"What are you saying? You yourself awoke the sleeping future, didn't you? Evidently you still don't realize yourself what you have done. When one is bitten by a pet dog, the responsibility usually lies with the owner. Properly speaking, you can't complain that you were disposed of in place of the girl at the time."

"Yes," interjected Tanomogi, "some of us felt that way."

"All the same we didn't give up hope until the very end. We tried to do as much as we could, and Tanomogi obeyed my request and went ahead and performed the dangerous service of killing the accountant."

"But I . . ."

"No, it's thanks to Tanomogi, thanks to him that *you* got by without having the outrageous experience of being summarily punished without even knowing why. And furthermore, seeing the future, however provisionally, you were given the chance not to transgress our law. Yes, yes, our son. Oh, I guess you didn't know yet. Yes, it's a son. For this, though,

we're much more in debt to Wada's suggestion than to mine."

Our eyes met, but Wada did not turn away. She paled to the very tip of her nose, and only her beady eyes shone like those of some bird. Suddenly I was reminded of the conversation last evening, when she had said I was being judged. Rather than being abashed, she seemed to be condemning. You can't frighten a scarecrow with a Halloween pumpkin. My anger was checked by my perplexity, and my entire body was as stiff as a board.

"Thanks to Wada, you were able to be linked with the future. That your son should continue to live as an aquan is a token of the gratitude we all bear you as the one who perfected the forecasting machine. Don't you see? Anyway, it means that you were able to manage not committing any crime against the future. That's a lot. A crime against the future is different from one against the past or the present. It's fundamental and definitive."

"I can't believe what you're saying. My son's been made into a deformed slave. How is that a token of gratitude? I can't say how amazed I am."

"Just a minute. Your amazement is merely a misunderstanding that stems from ignorance, but we'll let the explanation of that go until later. After we did all this, we took you to Professor Yamamoto's laboratory. At first it might have seemed to you a senseless, unrelated incident, but even in a perfect court of law you couldn't expect to be treated so fairly. You were placed in the position of seeing a portion of the future and being deeply interested in it but nevertheless not being able to say a word about it. That was as much as I could do. I had no choice but to leave the rest for you to decide. I had great hopes for you. Would you go boldly into the future or would you back out?"

"So . . . ?"

"There's no need to explain you any further to yourself. Despite all the effort we've expended, you haven't changed at all. By your bungling you've got yourself into a position where you can't avoid explaining things to your wife. We were some-

what roundabout, but ultimately it hasn't changed anything about the outcome of the first forecast. If you had been let alone, you would surely have revealed the secret. It's true, isn't it? This is the reason we've had you come here for the final solution."

"Yet according to what Professor Yamamoto said yesterday, there are milder means than killing."

"Quite. Usually we adopt much less conspicuous methods. Be that as it may, the Society's procurement goal for fetuses is eight hundred a day. You realize that at least eight hundred pregnant women learn about the fetus trade every single day? That makes a total of two hundred and ninety thousand a year. It's most interesting that we've been able to keep the secret. So as not to excite curiosity, we plant the fear of God in the women by telling them that what we're doing is a very serious crime and that those who sell to us have become our accomplices—a rather dirty trick. Their fear, when they're paid the seven thousand yen, is quite enough to stop idle prattle. It probably wouldn't work if the transaction were free. You may think it strange to pay seven thousand yen for an aborted fetus that in any case would be flushed down the toilet. And yet, when you consider the scale of the submarine colonies that are going to be completed, a yearly investment of some three billion yen is insignificant. It's cheap, don't you think, to be able to buy a whole human life for seven thousand yen? Seven thousand is the figure calculated by psychologists, and on the present price index it's evidently just the right quotation for souls. It's quite interesting. To be sure, the seven thousand yen we gave to your wife wasn't meant like that. Just a justifiable demonstration. There's no such uniformity in the price of souls. In any event, if you take into account the great number of people involved, there're bound to be leaks. But no matter how the rumor spreads, if these women are conscious of being accomplices in crime they're going to claim it was a personal ailment like stomach trouble. The more the news gets about, the greater the fetus procurement; there's not much danger, though there would be if any

information leaked out. Rumor suddenly becomes public opinion; it goes beyond the individual and thrives like a virulent influenza. Automatically we have to take the necessary measures. In the girl's case, a blunder by a duly registered broker, we had to envisage the extreme penalty as an object lesson. As we go to just as much trouble with every single person involved, it's rather complicated; but it can't be helped. Oh, the ultimate penalty is not so important in itself, and the disposal of the body poses problems. So usually we adopt a method that leaves no clues behind. For instance, we increase our frightening suggestions, or if that doesn't work, we induce insanity artificially. But I don't suppose you would prefer going insane to dying."

"You can say anything when it's a question of someone else."

"Someone else? You're talking nonsense. Your death is at the same time mine. But let's not get sentimental. If you have the strength to think and not be deceived by your emotions, you will quite naturally arrive at the same conclusion. It's decidedly better than living like a vegetable, and then those of your family who are left get a certain amount of insurance through the goodness of the Society."

"Insurance? How kind. But if your will is in reality my will as you say, then this is a sort of suicide, isn't it? They don't pay insurance on suicides."

"You don't have to worry about that. It will look like an accidental death. You're going to be electrocuted by touching a high-tension wire."

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How much time had passed, I did not know; but it had become completely dark outside before I realized it. Not a person stirred; I was clinging desperately to solely my own time, quite as if I were experiencing a series of astounding dreams,

awakening from one into the other. If only I could remain thus suspended, the silence would last eternally; the following instant would never come.

Had I been thinking of something during that time? I wondered. Apparently I had, but actually only insignificant trivialities. Was it the lady who ran the boardinghouse where he stayed that ironed Tanomogi's trousers? Or was it Wada? Evidently I had again stuck the premium statement for television insurance in my pocket and just forgotten about it. I made not the slightest movement, lost as I was in the labyrinth of these incoherent thoughts. But my emotions alone, if they had the chance, would take flight. I was awaiting my chance, all my muscles flexed, like a cat watching a hole in the wall. The word "cat" was not casual usage. At that time I was severed from reality as if by madness, but one object remained with me as a link with the everyday continuity of things. It was the view of the veranda bathed in the scattered flecks of sunlight from the wisteria trellis. As long as that veranda existed, I must be saved and saved I would be.

With a grating of his chair Aiba suddenly rose.

"Aren't we going to start pretty soon? It's already time, isn't it?"

"To kill me?" I cried, involuntarily drawn to my feet, my chair clattering over on its back.

"No, no," stammered Tanomogi in surprise, while Wada continued at once: "Not yet. We still have more than two hours to go until the scheduled time. But in the meantime we've got to take you by television through the aquan breeding-farm as we promised, and if you're willing, we're most anxious for you to see a preview of a submarine colony."

"There's no 'if' about it, I most assuredly do want to see it," boldly interrupted the machine. "It was on the schedule from the beginning. The time for the disposal has been purposely extended to nine o'clock. No matter how forceful your argu-

ments may be, the subject is not yet convinced. He still definitely plans to resist."

"Well then, we can begin, can't we?" said Aiba over Tomoyasu's shoulder, extending his hand in the direction of the machine.

"If I could just have a glass of water before we start . . .," said Tomoyasu, looking around Aiba and hesitantly addressing Wada.

"What about a fruit juice?"

"Sorry, but I'm terribly thirsty."

"That's perfectly all right. Anyway we're running late, and I have to go down and tell Kimura and the others to go on home."

Suddenly I called to Wada, who had begun to move in her gliding way, her body rigidly erect. "Do Kimura and the others know about the organization, then?"

"No, they know nothing," said Tanomogi for her. At almost the same time I bent over in the direction of the door and lunged forward with all my might, the tips of my toes digging into the floor. But before my hand could reach the door, it was opened wide from the other side, and I barely managed to remain upright as I stumbled through. There facing me stood the young man, the self-styled master assassin, blocking my way. He had an embarrassed smile on his face, and his two long arms dangled aimlessly as if he did not know what to do with them.

"Trying in spite of everything? Now, now, Professor."

Not caring, I crashed into him. The only thing left was to tell Kimura about the situation and to ask for assistance from him. These people were mad. Aiming with my left shoulder at the fellow's chest and taking advantage of his recoil, I tried to pass around his right side. That at least was what I intended to do. But something was manifestly awry in my calculations. I felt a sharp pressure on my left side, and just as I thought I was being pivoted around, the next instant I was flung against the opposite wall in a position difficult to understand. It was as if the lower half of my body was falling down somewhere

far away. From my crotch, from between my fingers, from my ears, a myriad eyes were staring at my face. At length, with the return of normal space relationships, a sharp pain blossomed in the area below my heart.

I was returned to my chair, supported on either side by Tanomogi and Tomoyasu. "You're perspiring," said Wada in a low voice, pressing into my hand a tightly folded handkerchief. Professor Yamamoto stood there shaking his head back and forth as if to say what a bad business this was. I saw that the young man, in the same stance as before, had opened his thin lips.

"Yes, Professor. Dr. Yamamoto told me to stop you if you tried anything. First I thought it was a joke. Sorry, but what else could I do?"

"That's enough. Go over there and wait," said the machine, but the man was apparently unable to distinguish it from my own voice. Nodding in a disjointed kind of way, not looking particularly puzzled, he left. I could hear the sticky sound of his canvas shoes.

"It doesn't make any difference. Just go ahead," said Wada, leaving the room.

"Everything you do, everything you say, is just as predicted," said the machine reproachfully, emphasizing its words.

Tanomogi turned out the lights in the room, and Aiba switched on the television.

Suddenly, as if encouraged by the darkness, I began to scream. But my throat was sore, and the cry was weaker than I expected.

"Why do you have to do a thing like this? If you intend to kill me in any event, why not get it over with right away?"

"It's all right with us," said Tanomogi, looking hesitantly over his shoulder into the blue light of the picture tube. "If you say, sir, you really don't want to see the pictures . . ."

I remained silent, motionless, suffering the pain in my side.

Interlude

Televised pictures of the aquan breeding-farm, with commentaries by Professor Yamamoto.

On the screen appears an iron door on which is painted in white the numeral 3.

A young man in a white coat enters. He turns and looks squintingly at the audience.

—First of all the birthing room. I'm going to ask you to take a look at your child. [*Turning to the young man.*] Ready?

—Yes, sir. Room 3.

—Never mind the explanation. Just show us Professor Katsumi's son.

[*The young man nods and opens the door. The interior is almost the same as the pigs' growing-room. The young man goes up some iron stairs and disappears inside.*]

—When we go all the way down this corridor to the right, we come out immediately behind the building we saw last evening—I wonder if you remember, the pool where they were training the dog. We're planning on building something on the order of a small-gauge trolley, since it takes over half an hour on foot by the long underground passages.

[*The young man comes back holding a glass receptacle.*]

—Everything all right?

—Yes, sir, fine.

[Close-up of the glass receptacle. A curled-up fetus, the shape of a minnow. The transparent heart pulsates like a filament of air shimmering in the heat. Blood vessels like bursts of fireworks in a dark, gelatinous substance.]

—This is your child. What do you think? He seems very healthy. Let's go on. *[Dark.]* Ah, just a moment. They're getting ready. This aquan breeding-farm is divided into three main sections: production, rearing, and training. But we'll cut the production division because it's the same as for other animals. Now the difference between the rearing and training sections is that the former handles aquans from birth to age five, and the latter from six on. However, children over six started when we were still in the experimental stage, and we are working on an extremely small scale for that age group: one eight-year-old, eight seven-and-a-half-year-olds, twenty-four seven-year-olds, and a bare hundred and eighty-one six-year-olds. When we get to the five-year olds, the number suddenly jumps to forty thousand; and from four on down, it increases every year, reaching ninety to a hundred thousand. Consequently from next year on the training section should reach regular proportions, and we're now pushing ahead with construction in several different sites on the open floor. Since the number of trainees admitted to a training division runs from three to ten thousand, we're building some twenty-one places altogether.

—Sorry to have kept you waiting.

[A voice interrupts, and the screen grows light. Underneath the water in an enormous pool, as far as the eye can see, long shelves partitioned into small compartments stand side by side in many rows and on numerous levels. In each compartment aquan sucklings are floating in whatever position they please.]

—This is the nursing room, part of the infant-rearing divi-

sion. They're brought here directly from the delivery room; we exceed five hundred a day, on good days a thousand. It would be ideal to keep them here five months until they're weaned, but if we did that we'd have to provide berths for at least a hundred and twenty thousand. It's quite out of the question. Consequently we keep all the babies up to two months, and then from each monthly batch we keep three hundred for testing purposes. The total comes to nine hundred. As for the rest, when they get to be over two months, they're sent to the child-rearing divisions attached to specific submarine exploitation sites. In the aggregate we're badly lacking in instructors, and this is a source of concern. But the death rate is surprisingly low. There are five pools similar to this one with thirteen thousand, and then there are child-rearing and training divisions—model pools for those from three to five months and for those who come from these model pools. I'm going to show you everything in order, but first I'd like you to see the nursing facilities.

[The camera zooms in on one of the compartments. It is a box made of bakelite. Inside, a whitish aquan baby covered with wrinkles, working its gills, is sleeping in a curious position, its large head downward, its body floating above. At the upper part of the box is a row of protuberances, each one connected to a slender tube which in turn is linked to a large pipe running along the top. A similar pipe runs along the bottom too, but in each box there is only one outlet.]

—The upper pipe channels the milk, and the lower one is for the disposal of waste matter.

[A technician wearing an aqualung swims up, nods, and taps lightly on the top of the box with his finger. The baby awakens, and its gills furiously open and close. Slowly it rolls over on its back, its head floating up, and begins to suck on one of the protuberances at the top. Its expression is exactly like that of an ordinary child, except that it is

most strange how, with each mouthful, milk spills out from the gill openings. At length the inside of the box is completely white. It is clear that the old water and the fresh water are circulating through the lower pipe.]

—But the most difficult obstacle was not so much the feeding as the problem of regulating the body heat. With the creation of gills a series of changes occurred in the outer secretory glands. According to the law of interrelation we had foreseen that probably a change in the quality of the skin and in the accumulation of subcutaneous fatty tissues would occur, but we had no concrete idea at all as to what extent. Furthermore, there was the problem of the skin's power of resistance—to objects and to infection. We were really tormented by this. If we dressed them in some sort of plastic after they grew up, we could never preserve the body temperature, since water is a bad conductor of heat. But actually we were rather successful. The question was just how warm we should keep the water during the nursing period. As you know, warm-blooded animals maintain a high temperature that is independent of the degree of heat around them and are able to expend a rather great amount of energy. But in the case of the aquans, who have undergone a radical change in form and physique, their ability of adapting to their environment has been more than usually activated; so it is quite possible, if we are not careful, that we will lower their temperature too much. For example, the temperature of a fish generally differs from the water by from four to six degrees. If in the unlikely event it exceeds that, these aquans we've spent so much time on would turn into worthless simpletons. Then shouldn't they be raised in ninety-eight-degree water? you say. But it's not all that simple. We were also concerned about reinforcing the skin and the subcuta-

neous fatty tissues. We were on the horns of a dilemma. But we managed to solve this problem too. Look over there. The upper pipe—you can't tell from the outside—has two layers. The inside pipe is partitioned off in the center, one side being milk and the other forty-five-degree sea water. Usually the milk side is directed to the nipples. But by an operation in the processing room the pipe revolves three times a day, morning, noon, and night, six turns in alternating ten- and eight-second periods, and cold water instead of milk is ejected from the thirty nipples. In other words it's a pressurized cold-water massage. This produced results beyond all expectation. Unfortunately I can't demonstrate it to you now, but when we give the massage the children get riotous. [*He waves his hand, chuckling.*] But I think that's enough for here. Let's go on. The order is the model pool you saw a moment ago, then they go on to separate pools according to age. We don't have too much time, so we'll cut out all the intermediate stages and have you see only the final five-year-olds and the way they live.

[Fade-out. Following scene. A pool about the size of an elementary-school classroom. About thirty children, half of them boys, are amusing themselves swimming freely around in the water. Rubber flippers are attached to their feet. They are the very image of average Japanese children, except for the strangely staring, unblinking eyes, the hair which floats about them like seaweed, the gill openings at the base of the neck, and the meager, narrow chest in proportion to the torso.]

A sound, like the scraping together of pieces of rusty metal, fills the whole area. A jungle of interlacing pipes hanging down from the ceiling and a number of pieces of wood floating on the surface of the water. Hoops to swim through and wall protuberances of complex, uneven shapes. Apparently playthings for the children.]

—The noise is the children gnashing their teeth. Aquans talk by gnashing their teeth. Their vocal cords have atrophied, but even if they had them, they would be useless in the water. They use a kind of Morse code, but the grammar is the same as Japanese so it's possible to translate. The advantage is that you can talk with any instrument and not use your mouth at all. Two people can have an absolutely private conversation by tapping their fingers together. It is also possible to give a speech with one's mouth full by tapping one's foot on the floor. And with the written word too we have created symbols composed of vertical and horizontal lines. At the present time there are about eighty former wireless operators who are quite fluent in Aquan. And since we're beginning to use a translating machine that functions with an electronic brain, we have come to the point of being able to provide them with a rather thorough education. Look, they're all keyed up. An order is coming from the dispatcher.

[The children stare in the direction from which signals are apparently emanating. Suddenly they rush toward the exit to the left, each struggling to be first. The camera follows them. Two women wearing aqualungs. One stands next to a large box. The other is apparently giving some kind of instruction by rubbing two sticks together. The children form a single line before them. One of the women takes from the box some objects about the size of ordinary books and passes them out to each child. One of the children who has received his portion suddenly sinks his teeth into it.]

—It's mealtime.

[The woman holding the sticks strikes the eating child. It flees, gnashing its teeth.]

—He was scolded because he behaved badly. We're very strict on discipline. We don't let them eat until they return to their room.

—Was that child laughing just now?

- Well, their emotional expression is somewhat changed. It's not laughing in the sense we would think of it. The diaphragm has atrophied along with the lungs, so they can't really laugh. What's interesting is that they absolutely don't cry. They couldn't even if they tried. The tear ducts have disappeared along with other outer secretory glands.
- Even though they don't shed tears, is it different from crying in other ways?
- As James said, man doesn't cry because he's sad; he's sad because he cries. They have no tear glands for crying and so perhaps don't even know the emotion of sadness.
- [A girl about to cross diagonally in front of the camera looks around in surprise. A small, tapering face with shining, wide-open eyes. She suddenly shows her teeth and makes a sharp noise, and, reversing direction, swims away.]*
- How cruel!
- What did you say?
- It's too pathetic.
- [Laughing.]* That won't do at all. You're forcing yourself to feel sympathy by crediting them with your own feelings. It's a waste of time. Let's go on to the next. The model discipline for those over six years of age.
- [From the television.]* I'd like an intermission, if you don't mind.
- Yes, of course. We have to transport the camera by submarine boat since the location is some distance away. In the meantime, let's have some light.

*An important report made by Tomoyasu,
during the intermission, on the hypothesis
concerning the end of Inter Ice Age 4.*

- I'm only a functionary, you realize, so I shall speak briefly and simply. Professor Katsumi is already

aware of this, but again this morning there was a telephone call from the newspapers. It was about a Russian proposal for joint investigation into the activation of volcanic clusters on the Pacific floor. In fact, we have long ago finished this investigation with the co-operation of Mr. Tanomogi. Very likely the Russians have formed some general idea of what we know, but you know this is a part of their usual political bargaining.

—Explain as simply as you can, cautioned Tanomogi.

—Very well. In any event, since I'm a nonspecialist, I can only speak simply. It so happens that volcanoes over the entire Pacific floor are showing activity. The phenomenon, moreover, is apparently related to the abrupt changes in weather recently and particularly to the abnormally high summer temperatures in the Northern Hemisphere. Various explanations have been offered for some time now: sunspots, the increase in carbon dioxide brought on by the step-up in human energy output. But the phenomenon can't be filed away so neatly.

We know, of course, that the glaciers and the antarctic ice cap, vestiges of the Fourth Ice Age, are melting and that naturally the sea level is rising; but the rise does not follow our calculations. Like the preceding Third Ice Age that completely melted away in a thousand years. What I mean is this: Calculating that sea level will rise about three hundred feet, a number of countries have packed up their cities and factories and taken them to the higher plateaus. It's disgraceful, but the government in Japan has simply disregarded the whole matter and let things run their course, perhaps because there are no plateau regions here.

However, since the recent International Geodetic Year it's become quite clear that the amount the sea level has risen far exceeds the rate of melting ice. By close to three times as much in fact, if we

are to believe our calculations. Some scholars go so far as to say by three and a half times. When I think about it, I realize it's impossible to explain this general sinking of the land by simply claiming it's a decrease of subterranean water. It's a case of sea water being recreated somewhere. Now subterranean volcanoes are beginning to be active on a large scale. Volcanic gas is almost all steam; the present sea water itself originally came from such gases. Perhaps it's true, I don't know, but it must be something like that.

And yet, judging from the increase in sea water, they don't seem to be just little eruptions. Something stupendous is evidently happening. For instance, according to one new theory—of course, I'm just parroting the scientists—they claim that, originally, what we call earth came into being with the fusion and distension, by this volcanic steam, of places on the surface of the globe which were particularly rich in radioactive substances. As a result the inside is filled with hot, pulpy magma. With the passage of time, this substance expands and at infrequent intervals becomes active volcanoes, but this is rather simplistic. Now as the crust gets thicker and thicker with lava, the weight increases and ultimately becomes unbearable, and the contents are suddenly ejected from the rim like a jelly doughnut squashed underfoot. Of course, such eruptions take place at the borderline of the sea floor and the land masses.

An event like this happens generally at the rate of about once every fifty to ninety million years and is apparently inevitable. When you look into it, you see that the areas around the Pacific coastal belt move strangely. This is a region of earthquakes known as the Pacific Fire Circle. Well, I honestly don't understand it. If all this is true, the rise in

temperature and in sea level is not an inter-ice-age phenomenon but very likely the result of one of these great cataclysms that occur once in fifty million years. This is a run-down on the hypothesis about the end of the Fourth Inter Ice Age.

When this hypothesis was first put forth—I don't know where—various countries panicked and promptly dissolved the International Geodetic Year. The reason for their alarm was the notion that at some not so distant time several hundred times more volcanoes than at present will become violently active; and the sea water will immediately begin to increase rapidly, more than ninety feet every year. In forty years the increase will be over three thousand feet. It would be a catastrophe in the unlikely event this were made public. Public order and discipline would completely break down. Aside from Russia with its great expanses, Europe would be wiped out, and so would America except for the Rocky Mountains. As for Japan, they say there would remain only five or six isolated mountaintop islands. Until some sort of countermeasures are taken, it is the duty of the government not to inform the people.

Every government decided not to meddle in the affairs of other countries in exchange for not being meddled with themselves. But since there are always constant shifts in governments, we could not be all that sure that the policy would go on. Consequently a kind of countermeasure committee, axed around financiers, came into being. And this subsequently developed into the Society for the Development of Submarine Colonies.

“You’ve acted absolutely unfairly!”

I felt as if some virulent acid had been poured into my

stomach. Even the tip of my tongue became feverish. Was I really angry, or did I only think that I should be, or was I trying to use this provoking situation? I did not know, but I felt that at this point I must speak out at any risk.

"If you knew all this . . . ,” I gasped, the muscles of my jaw so taut they would not obey me, “why didn’t you say so immediately? If I had known from the beginning, I would have reacted very differently.”

“I wonder if you would have,” said Tanomogi sharply, looking up.

“But of course I would have,” I cried, thinking to myself it was more of a scream. “Not saying anything about such a disastrous course of events is monstrous.”

“I don’t think so. If I had brought up the events before, I think you would have floundered around, trying to cling more than ever to the existing state of things.”

“But why?”

“Because the collapse of the land would upset you.”

“Well, it certainly has!”

“And does it look as if the existence of aquans would help your anxiety?”

I tried to answer, but I could not. I only wheezed as if I had a cold, like some little insignificant animal. The upper part of my body felt warm, but from my knees down I was curiously cold. It was quite as if death were creeping up from there.

“And so,” said Tanomogi slowly, “I consider the business of the submarine volcanoes as something rather secondary.”

“Why is that?” said Tomoyasu, extremely annoyed. “This isn’t just any inter ice age now, it’s the end of Inter Ice Age 4. Perhaps the beginning of a completely new geological upheaval.”

“That’s another kettle of fish. Whether there is or isn’t a natural calamity, the founding of submarine settlements is in itself of much greater significance. Not because it’s inevitable, but because in a positive sense it’s the creation of a remarkable new world. I simply consider the problem of the rise in sea

level as a good chance to make the people that count decide on taking steps."

"Heresy, Tanomogi, heresy."

"Let it be. Our position seems to be different from Tomoyasu's. It's quite true, Professor. We have cast our lot together, but that doesn't mean our thinking is necessarily all the same. I think you'll agree, Tomoyasu, that our financial magnates are actually planning on making a lot of money on this. Or are you claiming that they're forking out funds for the future from their own pockets?"

"You're exaggerating," said Tomoyasu with an angry expression, sticking out his jaw. "I don't care whether it's secondary or not, one thing's certain: The cities, the land, and everything else are going to sink. Whatever you say, that much is sure."

Again on the television screen, a view of the training school for aquans, and Professor Yamamoto's commentaries.

[A tulip-shaped object, supported by a single stem and shining whitely against the dark sea sky, is floating in the trembling water.]

—This is the model training-school building. Architecturally, it's rather interesting, don't you think? It's completely made of plastic; the walls are hollow and filled with gas. It's floating by the lift of the gas. Just the opposite of a land structure governed by gravity. And there's no need for ceilings or floors since it's inhabited by free-moving aquans. It doesn't matter whether it's fastened on a level or not. Entrances and exits open upward. You will agree that it's a very simple construction. And then whatever you say, it's convenient that they don't need air in the rooms; you never have to worry about water

leakage or water pressure. The sea depths are peaceful and quiet.

[We draw closer to the building.]

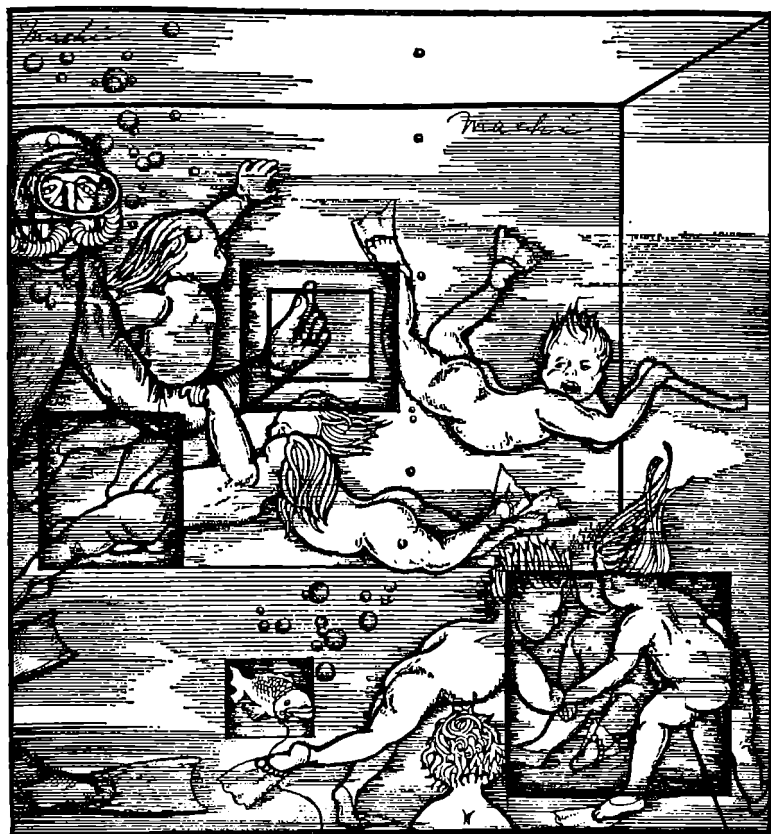
— It's big, isn't it?

— At the present time there are only two hundred and forty residents, but as the children increase in number it's scheduled to hold up to a thousand. It's a school and dormitory combined. Quite a building. In the future there's going to be a line of twenty-one of them similar to this one. Each year there'll be three hundred children from five to seven years old, a total of twenty-one thousand. They're simple to put up. Soon we'll shift to large-scale production. They bring four buildings at a time, each folded, occupying approximately the space of a truck. You link them up to the ocean floor, put in the gas, and that's all there is to it. I suppose getting the foundations to harden on the sea floor is a little troublesome.

[The camera travels up the side of the structure. Bands of faint light like fluorescence appear one above the other. Apparently the light is fitted into the walls. A school of small fish flashes across the screen.]

— Notice carefully. These bands of light flashing on and off are put there for a purpose. The rhythm of the alternation of light and dark varies slightly with each band as you go downward. They play the role of fish-luring lights. Each species of fish has its own fixed light preference, and they inadvertently go toward the bottom on that rhythm. There, a fish intake is waiting for them with its mouth wide open. It resembles an improved flycatcher, I suppose. I think that these fishing and hunting methods will be quite widespread in the future. They're very effective. Then the fishermen who come around here . . .

— Where's "here," for heaven's sake?



- About midway between Urayasu and Kisarazu, I should say.
- How have you ever kept it so inconspicuous?
- It so happens that the sea in this area is a hundred fifty to a hundred eighty feet deep. Besides, we've cleaned away the mud—exactly seventy-five feet, just the height of the building. You couldn't come down this deep without a diving suit. And the pupils are carefully watched.
- What are the trainers doing?
- They're lengthening the braces until the top gets to about sixty feet from the surface.

[The camera travels to the top of the structure. A large, round hole in the middle of a curved bulge. A youth hangs floating in the water, one foot on the rim of the hole. In the vicinity of his shoulders swims a fish about the size of the palm of a hand.]

- He's come out to meet us. This is aquan number one. He's the oldest one. Eight this year, but he looks twelve or thirteen or even more. He has no mother, it's true. But everything matures with surprising rapidity in the sea. I read in a publication of the Russian Academy of Science that even plant life shows about a hundred per cent increase in biological efficiency compared to the five per cent of land flora. It takes an elephant forty years to develop to full maturity; the great whales produce offspring barely two or three years after birth.

[The youth, opening his lips slightly and gnashing his teeth, lowers his head. He brushes away the fish that tries to rub against his lips. One has the feeling almost that he is smiling, but perhaps not. His whole body is encased in a gray jacket and tights, and flippers are attached to his feet. His light hair floats about his head like smoke. Aside from the sharpness of his strangely wide-open oval eyes, his graceful stance is quite like that of a girl's, perhaps because he is

supported on all sides by the pressure of the water. Only the gills and the tapered chest are somehow eerie.]

—The fish is tame. The boy likes pets. His name transliterated into speech is Iriri. It's just a symbol, so to speak. Now, look up there . . . the roof on top. *[Close-up of the surface of the roof. Under a cover, apparently made of plastic, something resembling blackish bubbles is growing luxuriantly.]*

—This is called *scenedesmus quadricauda*, a type of *chlorella*, but from the very first we acclimated the freshwater type to sea water. It's actually an ideal source of nutrients. It contains more than twelve kinds of the all-important amino acids. Crackers made of it are the children's favorite food.

[The youth bends his knees slightly and in that posture calmly begins to lower himself into the hole. He grinds his teeth, calling the fish. It goes with him. The camera follows behind. The youth wheels around, and lowering his head, moves faster. The tips of his feet to which the flippers are attached move with a subtle rhythm. Beyond, many children are waiting, clinging to a railing that runs along the wall of the hole and cutting in a straight line in front of the camera. A clamor like the buzzing of insects.]

—A very tame fish. If we go on training them like that, we'll have fish as domestic pets. *[He speaks into the mike.]* Would you mind stopping here?

—*[A dull voice in the speaker.]* Would you like to see the workroom?

—All right . . . for just a moment.

[The camera stops. A wall. The long oval doorways all in a line are quite like a beehive.]

—As there is no one to use it at present, it's almost empty. Over here is the classroom—for practical drill for the most part.

[We approach one of the doorways. Holding the fish, the youth puts some of his hair in its mouth, and preceding us, slips into the room.]

- We call it a classroom, but when completed it will be a little factory, completely practical. We'll be able to perform experiments in physics, manage the machines, process foodstuffs. In five years, when the highest class becomes the regular staff, it will be self-sufficient in the everyday necessities.
- What happens when one graduates from here?
- Submarine factories are under construction, and then we need men to work the submarine mines and oil fields. The submarine stock farms are plagued with a shortage of hands and are delighted to have the graduates. We plan to turn the ones with especially good marks over to a special training division and give specialized instruction as doctors, teachers, and technicians to help us humans and in due course to take over from us.
- [Tomoyasu, warningly.] But the diametrically opposite view that this special education . . .
- It's of no importance. There's a limit to what land creatures can do, and furthermore their number is quite insufficient.

[The interior of the room. There is no special worktable, but from the floor, walls, and ceiling, shelves, protuberances, hooks jut out. On them tools are suspended from plastic balloons. The youth looks proudly at the camera and the tools.]

— Look. Those are Iriri's inventions. *[Into the mike.]*
Would you please use one?

[The sound of gnashing. The youth nods, grasps a tool, balloon and all, and connects it with the pipe coming out of a corner of the room.]

— Compressed air. It's the main power under the water.

They also have gasified gunpowder and liquid gas.
[The youth turns a handle. The tool begins to tremble and to emit bubbles. The bubbles pass before our eyes to the ceiling, where they gather into a huge globule that is slowly sucked up through a vent in the ceiling. The fish follows

them, nibbling at them with its mouth. When the youth fits the vinyl board beside him over the trembling protuberance, the bubbles are cut off.]

- It's an automatic circular saw. A valuable invention. He worked everything out himself. It's hand-made, of course. This processing room for plastics is complete with the usual equipment. Plastic is to life under the sea what iron is to life on land, so you might say that having a mastery of it is a basic art of living here. But it's slightly strange . . . a child scarcely eight years old. They mature so rapidly in the sea, and not only physically.
- What do you do for energy? In the production of plastics you need rather high temperatures, and then the lighting in this room . . .
- Electricity, of course. With the development in insulating techniques it was quite easy to set up. One of the touchier problems of life under the sea. One way or another you couldn't manage without electricity.
- You can't?
- Absolutely not. Not even if you could find something else for heating and power. Take the wireless: You naturally have to use supersonic waves since electric waves are useless in the water. But in sending and receiving, electricity is essential. Besides, in due time we would like the compressed air to be self-sustaining. Right now we're linked by cable to land, but in the future there's to be a small-sized atomic generator, or we'll devise an efficient heavy-oil generator, or we'll make a gas generator that functions by its own buoyancy. We have to think up some way to get along without depending on land. We'll then also be able to construct a laboratory fixed to the sea floor, far from any place. It will even be possible to construct huge cities. Well, well. Another invention?

[About a third of the way up from the bottom the youth comes dragging a straight stick to which pedals are attached, and at right angles at the lower end, a screw. Standing it upright, he mounts and begins to pedal. He rises. When he leans over, he begins to go sideways.]

—An underwater bike. He's proud to be seen on it.

—He's surprisingly friendly, isn't he?

—True. Iriri is particularly amicable. As the boy was our first experiment, perhaps we failed a bit in the developmental process. The exterior secretory glands didn't completely disappear. You've noticed, haven't you, that the shape of the eyes is oval? There are very slight vestiges of tear glands in the left one. Perhaps they are the cause of imperfect combustion.

—Imperfect combustion?

—You must understand that man's emotions depend in large measure on the sensations of his skin and mucous membranes. For example, "to feel clammy," "rough to the touch," "to be sticky," "to feel itchy"—to take but a few such sensations of the body surface—all, you realize, are metaphors for mood or atmosphere. In short, these surface sensations are an instinct to preserve the sea in us from the air. It may seem that I'm straying from the subject, but I'll ask you to listen anyway; it's possibly important. As you know, human beings are highly developed land animals composed almost completely of ingredients from the sea, from blood and bones to plasma. Not only was the first life sea-crystals, but subsequent life has continued to depend on the sea. And even when it came up on the land, it brought along the sea wrapped in its skin. When it falls sick, it must be given saline injections. However, the skin itself is nothing but a transformation of the sea. Though its power of resistance is stronger than anything else, sometimes it must be helped by the sea. The exterior secretory glands are

the reinforcements of the sea for the hard-put skin. Tears are the sea of the eyes. And so in the final analysis our emotions, that is, the stimulation and control of the exterior secretory glands, are merely the sea's struggle in self-defense against the land.

—Without them there would be no emotions?

—No, I don't quite say that, but they're of a completely different quality from what we ordinarily imagine. At present the aquans are in water, and at this point they do not have to struggle with the atmosphere. It's like saying fish have no fear of fire.

[The youth manages the watercycle adroitly, playing tag with his pet fish.]

—Actually when I look at the children other than Iriri, I'm disturbed that they don't seem to have much feeling. Of course, I don't mean not at all. It's just a different sort, I guess, but . . .

—You mean that only this child is something like a human?

—You somehow realize it by watching him. *[Sentimentally.]* Isn't having land feelings under the sea only a matter of incomplete combustion?

[Following the fish, the youth slips by the side of the camera and goes out of the room.]

—Isn't that the reason he's so intelligent?

—No, the other children are in no way inferior from the standpoint of intelligence alone. A child three months his junior made a clock based on an alternation of air bubbles. We call it a clock, but the hands move every fifteen minutes.

[The camera follows the youth slowly toward his companions.]

—*[He collects himself and recovers his businesslike tone.]*

This middle layer is allotted for living quarters; underneath are ordinary classrooms for the various year groups. The course of study is the same as our own, starting with reading, writing, and arithmetic,

but after that we're not sure how to proceed. For the present we've settled on a program that gives priority to high-nuclear chemistry and hydrophysics, which are pertinent to their living conditions. After all we can't project ourselves that much into their position. Of course, only when they produce their own educators will a definitive course of study be decided on. After all, air and water are too different from the standpoint of sensation.

[A series of balconies, one over the other. Children playing. Some show unreserved curiosity; others are almost completely uninterested.]

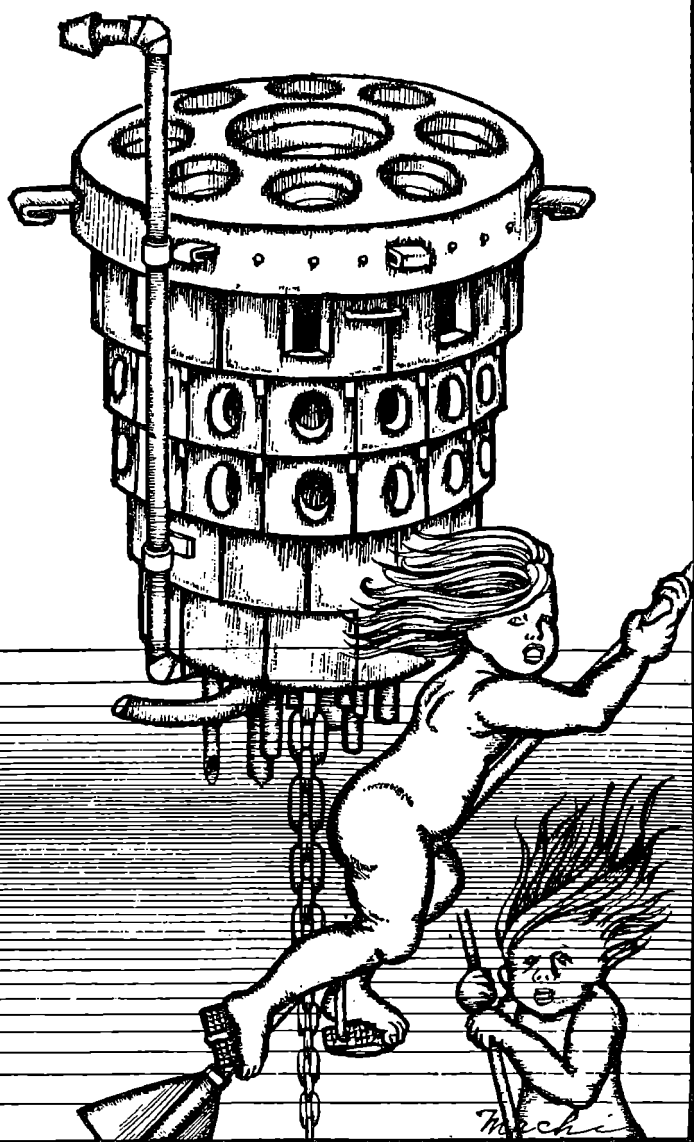
—It's needless to say, I suppose, but they study nothing like history, geography, or sociology. We couldn't make up our minds about the best way to teach them the relationship between humans and themselves.

—*[Tomoyasu, sniffing.]* That's quite right. It would be an error to incur their everlasting enmity.

—No. *[He shakes his head slightly.]* When you say that, you're overrating land people.

[In the children's curiosity and indifference, there is one element they all have in common. That is their abnormal coolness. When they look at one, one feels that it is oneself that has become an animal. One understands Professor Yamamoto's expression that they seem without feeling.

Darting at the camera, an impish fellow tries to cover the lens with his two hands. Hugging the wall, a girl is raptaciously observing a worm. A school of youths surround Iriri and study his bicycle. A young girl seizes a stray fish and pops it into her mouth. A boy who is nearby puts his finger into her nose, and shaking her roughly, makes her spew it out. Another girl drifts along on her back as she lets a boy lick her armpit. A mixed group, perhaps the people on duty, are running a compressed gas vacuum cleaner over the walls. A boy is pressing his cheek against the face of an aquadog that has curled its tail between its legs.]



—This has been rather perfunctory, I'm afraid. Oh, Aiba.
Would you cut the power, please?

[Someone unconsciously lets escape a great sigh. The after-image on the screen flickers, tapers to a fine point, and dies away.]

Blueprint

35

We watched the picture on the television screen flicker, taper to a fine point, and die away. No one moved for some time. No one attempted to turn on the lights in the room, and no one requested it. Perhaps there was something still to come. I sighed to myself in relief at the thought. At least I should stay alive that much longer.

But as the silence continued, I was suddenly afraid. The curious thing was that I was overwhelmed by what had been shown me and that while I resisted it emotionally, it was as if in my heart I thought it most interesting. Scarcely realizing what I was doing, I tried to calculate the proportion of boys and girls—roughly the same number of each, I should imagine—and I let my conjectures have free reign about the future forms of marriage. I felt I was with them in experimenting with human beings. But when I recovered myself, surrounded by the dark, I was the one who all along had been experimented on. I was awaiting death. A cup of compassion for one condemned to die. Could they say that a change had occurred in the nature of death? I wondered.

The fingernails in my fists bit into my palms. It was as if I were encased in plaster; I simply clung to the moment. In spite of this feeling, had I been talked into thinking, by this alter ego of mine, that I wished for my own death? What injected doubt about the ability of the machine was the fact

that I followed its judgment, and by recognizing this, approving it, I was caught in a ridiculous vicious circle, as if I were divining my own fortune with a coin the two faces of which were the same. No, to reject a pointless death I needed no more reason than not wanting to die.

I thought I could not endure it any longer. But action does not occur from thought alone. Of course, it could not be that I did not grasp my predicament. The deep freeze in which I found myself was not one I could escape by tightening my emotions, but rather by somehow relaxing them. I was bound up by my tenseness, the muscles of my body were as stiff as old leather, so that by just moving my head I should have emitted creaks.

At length Aiba raised his head, shifting in his seat as if he were going to ask a question. Grasping the opportunity, I hastily squirmed in my chair to escape from the spell. But it was as if my vocal cords were coated in paraffin; my voice was pitiful. My self-respect had completely vanished.

"It must surely be harder to live on land than in the sea. But it's because of that very difficulty that living creatures evolved into human beings, isn't it? I can't approve of any of this," I said.

"I suppose not," muttered Wada.

"It's prejudice," said Professor Yamamoto, recovering himself and feigning cheerfulness. "It's quite undeniable that living creatures evolved as a result of their struggle with nature. It's also true that the four ice ages and the three inter ice ages caused the evolution of humanity from *Australopithecus* to modern man. What was it?—someone put it very well when he said that this creature we call man is a pupil born from the magic handkerchief of the glaciers. However, the human species has ultimately subjugated nature. Man has improved it. He has moved from a wild state to one that is the creation of human hands. That is, we have attained the power to change evolution from something accidental to something deliberate. We may consequently consider that the goal toward which living creatures strived in crawling up from the sea to

the land also no longer exists. We had to polish our old lens, but present-day plastic lenses stay clean from the start. The times are no longer such that we can say that hardship forges the man—*rebus adversis severus factus*. Man is liberated from the natural state. Should he not then logically reconstruct himself? If he did, the circle of struggle and evolution would close. Soon the time will come when he returns to the sea which is his home, not as a slave but as master.”

“But a slave is a slave,” I said, regaining my strength, although for some reason I heaved a deep sigh of relief. “These creatures are colonials after all; they have neither their own government nor statesmen.”

“No, they don’t,” interrupted Tanomogi impatiently, “but in any period new men are continually being born from the slaves, aren’t they?”

“But accepting aquans like that is denying one’s self, isn’t it? Humans on land live as inheritors of a past.”

“We’ve got to stand it. Enduring our severance with the past is placing ourselves in the future.”

“But if I’m a traitor to the aquans, aren’t you all traitors to those who live on land?”

“But Professor, what about looking at it this way.” He shook his head, showing how easy the whole thing was to understand. “On the one hand the streets are full of unemployed, and business conditions are growing worse and worse.”

“Of course, of course. You can always justify anything. Yet you have absolutely no right to keep such terrifying plans hidden as you have done.”

“Oh yes, we have. It’s the right given to the aquans through the forecasting machine. Besides, when the time comes, we’ll make the necessary announcement.”

“When?”

“When the majority of mothers have had at least one aquan child. When the prejudice against aquans fades, when the fear that distorts reality has gone. By that time the terror of flooding will have become a reality, and people will have to choose whether to wage war in a scramble for land or to accept

aquans as the bearers of the future. Of course," he added, sliding back his chair noisily, "they'll choose the aquans."

As he finished, he turned and looked around and made a kind of sign to Aiba. To me it was a terribly merciless gesture, and I was shocked as if I had suddenly bumped against a corner in the dark. In the twinkling of an eye, Aiba stood up and slipped an already prepared program card in the slot. He began to manipulate various knobs as he peered through an observer.

Suddenly I felt a pain as if I had been stabbed with a needle. It was not a needle, but Tanomogi's right hand that had been gently placed on my left shoulder. Without my realizing it, he was standing bending forward diagonally behind me.

"It's the prediction of the future, sir," he murmured softly. "The blueprint of what is really to come. I know you're anxious to see it."

36

And the machine told the following story.

At fifteen thousand feet the thick mud of the lifeless sea floor was spotted with holes, and fluffy as if covered with the hair of some atrophied animal. Abruptly it heaved up. Instantly dispersing, it transformed itself into a dark, upward-welling cloud that wiped out the star points of plankton thronging over the diaphanous black wall.

Creased shafts of rock were laid bare. Then a mass, glimmering like brown jelly and spewing enormous bubbles of air, spurted up, unfolding infinitely like the branches of some ancient pine. The spume dilated, and the magma, shining darkly, vanished. After that only a great column of steam pierced the marine snow, eddying upward as it soundlessly dispersed. But the column had vanished midst the great water

molecules by the time it reached the far-distant surface of the sea.

At that precise moment, about two nautical miles ahead, a passenger freighter, the *Nancho Maru*, was heading for Yokohama; the passengers and crew felt merely a brief moment of disorientation at the unexpected creaking and trembling of the ship's hull. On the bridge the second mate had been alarmed by the faint but sudden change of color that had occurred in the sea and by a school of dolphins leaping in confusion, but he had not considered these especially worthwhile noting in the log. The July sun shone in the sky like molten mercury.

By then the invisible pulsation of the sea had already become a great tidal wave sweeping landward through the water at the incredible speed of 480 miles an hour.

The tidal wave passed like a soft breeze over countless rows of submarine farms and oil fields and forests of tulips. Among the aquans, engrossed in their search for fish eggs, no one was even aware of it.

The next morning the tidal wave washed away the shoreline from Shizuoka to the Boso Peninsula. The *Nancho Maru*, having received wireless notification of the obliteration of Yokohama, simply came to a halt in the open sea.

The ship's captain was completely bewildered by the expression "obliterated," but the attitude of the passengers was more curious still. Whatever was this calm? But in fact this curious attitude was not something that had just begun. The group that had engaged the whole ship had loaded on a huge machine. Even though they had arrived at their destination, they had made no attempt to unload it. They had ordered the ship to turn back and had furthermore fumbled about with the machine, constantly going back and forth during the voyage to the hold as if it were some kind of experimentation room. Who could this Tanomogi and the others be?

—Then it's you?

—Obviously.

—You didn't say anything after you knew Yokohama Harbor had been completely destroyed, did you?

—No, I didn't. Since there was advanced warning, almost everyone escaped safely.

—Well, am I on board that ship too?

—No, Professor. You are long since . . .

The flood waters did not recede. A boy and a girl were greedily roaming over the shore in search of treasure. They picked up something, thinking it to be a bangle, but it turned out to be a denture. There was nothing much of value. Then the girl saw a drowned man. She was frightened and wanted to go back, but the boy wanted to turn him over with the end of a stick. The body, grinning, its tongue protruding, reversed its direction and was swept away. It was in fact an aquan who had come to reconnoiter, but the girl, who did not know this, became hysterical and fainted.

Not only did the water not recede, but the constant earthquakes and the strange rumors of drowned people caused unrest. But what was of much greater concern was the wild report that the government had disappeared. It was, of course, only a rumor, yet it was not absolutely groundless. For the government had already been transferred to the sea.

There the government buildings were located on a prominence with a good view and surrounded by woods of seaweed and the rocky desert of the first submarine ward. On the other side, at the foot of a gentle incline, separated by a sixty-foot ravine, were orange tulip-shaped factories, three on each side, specializing in the manufacture of magnesium and plastics. In view of this strange scenery officials were busily making preparations for broadcasting within a floating structure the shape of a cylindrical tube filled with air and moored by three legs.

At length the broadcast began from an antenna that had been hoisted above the surface of the water.

—We have finally come to the end of the Fourth Inter Ice Age and have entered a new geological era; we must avoid rash behavior.

—The government has secretly created aquatic beings in order to carry on international relations and profitably push forward in the development of submarine settlements. At present, eight submarine cities have already been founded with an aquatic population of over three hundred thousand.

—These populations are happy and obedient, and they have pledged complete co-operation in the present calamity. You will shortly have relief articles delivered to you. Almost all are sent from the sea floor.

—Further, the distribution of special rations is under consideration for mothers of aquan children. Please tune in for subsequent announcements.

—Lastly, Japan lays claim to the rights pertaining to territorial waters covering areas as stated elsewhere.

(The part about special rations was especially popular, as the overwhelming majority of mothers were qualified for these privileges.)

Behind the government buildings three other slightly smaller structures of the same shape stood in a row. They were ordinary living-quarters, cleverly constructed; on the roofs stood aquacopters. In the expanse of garden surrounded by barbed wire and forbidden to aquans, there were ravines and sunken rocks and woods of multicolored seaweed. On clear days air-breathing civilians, even if they were not interested in insect collecting, would fasten on their aqualungs and watch the

sighing sun expanding and contracting through the waves like ends of frosted glass. Or a whole family would go off on a picnic, harpoon guns in hand. But room rents were prohibitively high, and it was hard to manage without government subsidy. Not just anyone could live there because he wanted to.

On land, life was somehow still going on. There were generators, factories, and shop-lined streets. The average man was in spite of everything living on land although pursued by inflation and the approaching shoreline. Life was more and more difficult, and so if really hard pressed he would make ends meet by hiring on as foreman at some submarine farm. A strange movement among land mothers came into being for the purpose of maintaining close contact with their children. But the aquans themselves were quite unable to comprehend such a desire and did not even respond. The government pretended ignorance. Instead, popular companies were established that promoted group trips to the sea bed; they were very prosperous.

An incident occurred. Some air-breathing child wearing an aqualung shot and killed an aquan child over the out-of-bounds wall for aquans. The government ruled that no law applied, but the infuriated aquans responded by a strike, albeit partial. In its confusion the government decided to recognize equality of rights before the law for aquans. It worked all right, but from that point on relations between the two changed greatly. Some years later three aquan representatives—for judicial, commercial, and engineering affairs—were added to the government.

With the passing of time the speed of the rise in sea level increased. People continued their ceaseless migration toward higher land and in the process lost the habit of living in fixed places. There were no longer any railroads or generator stations. People lived aimlessly on alms given by aquans. On certain shorelines, water telescopes were installed, and a busi-

ness of viewing life in the sea through them sprang up; it was a great success. Bored older folk spent their meager resources watching their children and grandchildren.

But some years later even the telescopes were rusting at the bottom of the sea.

—Well, what became of the others, the ones who weren't allowed out?

—They kept on living inside buildings filled with air.

—In safety?

—Safely, yes. But the guards who make their rounds with harpoon guns no longer wear aqualungs. They've been replaced by aquan guards. The aquans decided to preserve the air-breathers as specimens of their human past.

—Is that enough, Tomoyasu?

—Mm. Well, I die at about this time anyway.

Finally the aquans had their own government. It was recognized internationally. Various countries followed their example and adopted their ways.

But there was just one thing that distressed them. There was a strange illness that appeared in one out of ten or twenty thousand. It was apparently due to bad heredity, perhaps the inheritance of outer secretory glands that Iriri had possessed in the first generation. It was called land sickness, and as soon as it was discovered, surgery was recommended.

37

"I told you so," I exclaimed in spiteful triumph.

"What is it?"

"It's their turn now to be plagued by the land."

There was no answer. I could fully sense without looking

the devout expressions of those around me, as if they had gathered at a deathbed. Even Wada, who had braced herself, pursed her lips and looked as if she had gone beyond love and hate. At this late date it would serve nothing to be perverse.

"This is all so far away it makes me feel faint," murmured someone behind me. Doubtless Professor Yamamoto.

How distant it was, this future, as indistinct as an ancient past. Suddenly I shuddered, and the breath I was exhaling reversed itself, making a noise in my throat like a broken flute.

Apparently everything I needed to know was there. But what was I to do? Should I pretend to approve of the future and await the opportunity to proclaim the whole thing publicly? If there were any moral value in justice, I should act thus. If not, should I recognize that I myself was my future enemy and comply with dying? Perhaps I should if there were any moral value in honor. If I did not believe in the future, I should have to accept the first alternative. If I did believe in it, then I should have to recognize the second.

It would not be strictly correct to say that I was perplexed. More exactly, I was simply telling myself I should be. Doubtless I would be liquidated like some piece of trash, irresolute to the very end. The worst was that I myself could no longer have faith. I seemed to be something worthless, quite properly trash. Perhaps the machine had indeed seen everything precisely.

I had the impression I was talking with myself, but my thought turned into words. "Is it right to consider the machine so infallible?"

"That's the way you usually think, isn't it?" Surprise and sympathy blended in Tanomogi's voice.

"Look here. There's a possibility of error, isn't there? The more remote the future, the greater the error. If it's simply a question of error, that's still all right, but who can prove that all this is not just an idle musing of the machine? It might very well have made this whole thing up by changing what it didn't understand or by simplifying and coming up with the most convincing result. After all, if something with three eyes

were produced, the machine had the capacity of correcting it to two."

"That's as predicted. At some point, sir, when you began to suspect even the prediction ability of the machine . . ." The rest was blurred in a fit of coughing.

"I'm not saying that I doubted it. Aren't doubting it and accepting it absolutely two different problems? Personally, I think that a completely different future . . ."

"A different future?"

"You all act as if you were the benefactors of the aquans, but will the marine population of the future be as grateful to you as you think? Surely they will hate you mortally."

"A pig doesn't get angry when you call him a pig. Of course, we're benefactors."

Suddenly my body felt like lead, and I was overcome with a feeling of numbness; my words faltered. I felt quite as if I were looking into the limitlessness of space, gazing at the stars, the tears welling up in my eyes with the effort. It was like a balance between the finitude of thought and a sense of physical helplessness which was neither despair nor feeling.

"But," I said, groping for words, speaking at random, "what has become of my child?"

"It's quite safe," replied Wada softly as if from a distance. "It's our present to you, sir. It's the least we can do."

38

The machine continued.

There was a young man, an apprentice in the submarine oil fields. One time, as he was assisting in the repair of the radio tower belonging to the concession—it was suspended from a plastic boat floating on the surface of the water—he could not forget the strange sensation he had experienced when he had happened to surface without his air suit. (This suit was a

working garment provided with a device that constantly sent fresh water to the gills and was worn by aquans for working above the water.) But leaving the water was strictly forbidden by the health authorities. Discovery meant punishment. The young man was thus obliged to keep the secret to himself and tell no one about his experience.

But unable to put out of his mind the apprehensive feeling that the wind had taken something from his skin, he was again and again lured from the city and would swim far away. Invariably his destination was a plain which was said to be former land. There areas of fast-flowing water and whirlpools were created by the rising and falling of the tides, and bands of mud on the sea bottom would eddy up in stripes, forming moving cliffs that turned into walls of mist. The young man saw all this, and he pictured to himself clouds over the land surface. Of course, even now there were clouds in the sky; in science class they had shown him actual films. But now the clouds were monotonous. Once, when great land areas still covered the globe, the complex configuration of the earth was said to have imposed on the clouds a myriad variations. The whole sky was afloat with dream shapes. How, he wondered, did the people who lived on the land in those ancient times feel when they beheld them?

Of course, terrians themselves were nothing especially extraordinary for the young man. If one went to the aerium in the museum you could see them any time. Dragging along their chain of gravity, amid household furnishings that were said to be quite authentic, they were, from the looks of them, dull creatures, clumsily moving around, cringing on floors. Incongruous busts, greatly distended to contain the air chambers they called lungs. Handicapped things, obliged to use strange implements called chairs simply to keep their accustomed posture. He could not picture in his dreams what such life would be. In art class aquans were taught that the old terrian arts were crude and awkward compared to their own.

For instance, music was by definition the art of vibrations. That is, it was something that enfolded the whole body in

water vibrations of differing lengths. But in the instance of terrians, it was constructed only by the vibration of air. And these air vibrations could only be caught by small, specialized organs known as eardrums. Naturally then, such music was monotonous and had little variation.

When you looked at terrians in the museums, you got that feeling. But one could not imagine just what the music really was like by simply positing such a state of affairs. Was there not some special world completely different from what one might infer from under the water? Diaphanous, shifting air . . . clouds dancing in the heavens, assuming shapes of all kinds . . . a world of fabulous dreams, an unreal world.

It was written in history books how the aquans' ancestors on that ruined, misery-filled land, though wounded, had bravely struggled on to the last. As one looked back, one could see they possessed a real frontier spirit. Despite their conservatism they had had the courage to plunge the scalpel into their own flesh, to change themselves into aquans. Whatever their motives, one must show honor and gratitude to their courage, which has brought about present aquan existence.

But could one sense such courage, such daring, in the land creatures in museums? Scholars called their inferiority a degeneration arising from their loss of a positive participation in society as individuals. That might be, yet couldn't one say that there was something in them one didn't understand? It was impossible to claim they had nothing more than frontier spirit. The youth's ideas were not very coherent, but as he had experienced the surface breeze, he was fascinated and obsessed by the world of the past that had functioned beyond the wall of air. Studies about forms of life at the time of land living had advanced to a fairly high level. Even grammar school texts devoted quite a number of pages to the period of terrian life. But one could understand the inner life of people then only by inference, given the discrepancy between aquan feelings and theirs. There was a particular fear of the bad effects of land diseases, although actually those diseases might be merely sorts of congenital nervous disorders. Perhaps be-

cause the history of life in the water was still relatively short and because certain trial and error elements still remained in the administration of aquan society, they might still spread, thus affecting everyone's thinking. As a result their study was not much encouraged. Yet the temptation to break the taboo about leaving the water appealed very much to the youth.

Before he realized it, it had become daily routine for him to make secret excursions when work was over. He would ride around on a water scooter, searching for traces of land-people's life, as far away as the closing time of his dormitory would permit, passing through the bubbles of air ceaselessly sent up volcano-like by the factories, over the corner of the aeroscopic emplacement that was suspended by myriad buoys, and over the submarine pasture lands, stretching out on a floor of green light. Above him the waves gleamed dully as if seen through the underside of rippled glass.

But within these time limitations he had not been able to reach a plateau high enough to break the surface of the water. In the area around him land had already ceased to be.

One day the youth stopped his music teacher and ventured to question him. Wasn't land music really not the art of sound heard only with the ears, but something that could be experienced through the skin like the wind? he asked. The teacher emphatically denied it, shaking his head.

—You see, wind is the simple movement of air and not the vibration of it.

—But don't we say "a song is wafted on the air"?

—Water transmits music, but water is not music. When you give air a significance over and above being a raw material for industrial purposes, you're under the unfortunate influence of mysticism.

But the youth had heard more in the wind than mere material for industrial use. Even though it was his teacher who had spoken, there was a possibility of error. He resolved to ascertain once more for himself whether the wind was or was not music.

After a while there was a three-day holiday. Taking advan-

tage of it, he set out with a friend on a pleasure boat that made the rounds of the ruins. It was a high-speed craft and brought them in barely half a day to the great terrian ruins of what was formerly called Tokyo. There was a well-equipped camp with shops selling wonderful souvenirs, and even a zoo of land animals that was internationally famous. It had become a most amusing holiday resort. Exploring the labyrinthine crannies and passages of the grim ruins piled together like clusters of small boxes, scattering the little fish before one, was a mildly thrilling and exciting amusement. When one looked down on the town, there were strange things called streets that spread out like a net. You might call them roofless tunnels for walking. As terrians could use only level surfaces and could not leave the ground, such devices were doubtless necessary. But what a senseless waste of space. At first it was funny, but when you thought about it, it was a moving sight. The vestiges of their ancestors' struggle against the wall that was earth. Their efforts and schemes to make themselves a little lighter, to subtract themselves a little from gravity. There, even a little plastic box filled with air would fall straight down. The scramble for land and its partition. They had made their bodies move by pushing against the ground with their two thin legs. Empty space . . . dryness . . . wind . . . where even water itself, which came in scattered drops called rain, fell downward from above.

But the youth had no time to admire such wonders. Leaving enjoyment and curiosity to his simple companion, he went swimming, quietly and alone, farther into the hinterland, as he had planned. If he swam a good day in a northwesterly direction, he should reach the land remains that he had learned about in geography. Gradually the sun sank toward the horizon. It was the moment of the day when the waves glittered most beautifully, but as he advanced, the surrounding seascape grew monotonously darker. Shadows of death seemed to lurk in the belt of land that had been newly added to the sea.

Looking around, he could see above the ruins of Tokyo the

light of a telescopic illumination floating like a luminous fish. Suddenly he was frightened and wondered whether he should not go back, but against his will his feet propelled him on.

The youth swam and swam. Deep ravines, hidden rocks, more and more rugged relief. The dead shapes of land vegetation standing like spines. And then faint white spots clustering at the summit of a rise. Perhaps the bones of land animals that had died together, driven there by the oncoming sea.

The youth continued swimming the whole night. Three times he rested, keeping up his strength by eating fish he caught and some sweet jelly he had brought with him. But having never swum more than fifteen minutes without his scooter, he was so tired he could hardly feel his arms and legs. And yet he kept on. Just as dawn was breaking, he was able to reach the sought-for land. He rose up, cutting through the surface of the sea. Land, yes, but only a tiny island scarcely a half mile in circumference, barely lifting its head above the surface of the water.

With the last of his strength the youth crawled up onto the land. He had imagined that in order to hear the music of the wind he would have to stand upright on the land surface, but when he had crawled up he was unable to move and lay flat on the ground, heavily, as if his body had suddenly absorbed the weight of the world. It was all he could do to raise a single finger. Besides, his breathing was painful, as if he had received a foul blow in a wrestling match. But assuming that there was oxygen in the air too, he made little of it.

The longed-for wind was blowing. It washed over his eyes especially, and something, as if in response, came seeping out from within them. He was happy. Perhaps these were tears, it occurred to him, obviously a land sickness. He no longer felt like moving.

Soon he stopped breathing.

Then after the passage of several scores of days the sea swallowed up the little island too, and the dead youth was carried off by the ocean currents.

Now I wonder if I can raise my own fingers, I mused. No, maybe not. Like those of the aquan youth who had crawled up on land, my fingers were as heavy as lead.

Far away a trolley bell sounded faintly. A truck sped by, making the earth tremble. Someone cleared his throat softly. The window frame vibrated and the pane rattled once or twice—perhaps the wind had risen.

At length, beyond the door the sucking sounds of the killer's rubber soles drew near. But I still could not believe it. Could man be made to assume responsibility by just existing? Perhaps so. In a quarrel between parents and children it is always the children who judge. Perhaps it was an actual law that the creator be judged by the created, intentions notwithstanding.

Outside the door, the footsteps stopped.

Postscript

The controversy about whether the future is affirmative or negative has been going on for many years. Numerous literary works have expressed an affirmative world image or a negative one by using the form of the future.

I, however, have taken neither the one nor the other course. In fact, it is extremely doubtful whether one has the right to sit in judgment of the values of the future. I believe that if one does not have the right to deny a given future, neither does he have the right to affirm it.

The real future, I think, manifests itself like a "thing," beyond the abyss that separates it from the present, beyond the value judgments of the present. For example, if a man from the fifteenth century could return to life today, would he consider the present hell or paradise? Whatever he thought, one thing is quite clear and that is that he would no longer have the competency to judge. It's the present, not him, that judges and decides.

I too, therefore, believe that I must understand the future not as something to be judged but something rather that sits in judgment on the present. Thus, such a future is neither utopia nor hell and cannot become an object of curiosity. In short, it is nothing more or less than future society. And even if this society is developed to a far higher degree than the

present one, it only occasions suffering in the eyes of those entombed in their microscopic sense of a continuing, predictable present.

The future gives a verdict of guilty to this usual continuity of daily life. I consider the problem an especially important theme in these critical times. Thus I decided to try to grasp the image of a future that intrudes on the present, a future that sits in judgment. Our usual sense of continuity must give way the instant it faces the future. In order to understand the future, it is not enough simply to be living in the present. We must be clearly aware that there is real evil in the very commonplace order of things we call everyday living.

Perhaps there is no such thing as a cruel future. The future, properly speaking, is already cruel by virtue of being the future. The responsibility for this cruelty lies not on the side of the future, but on that of a present unable to accept the abyss that separates the two. This novel appeared in serial form in the *Sekai Magazine* over a period of about nine months; during that time I was myself tormented by the cruelty of this abyss. And I realized that it was impossible for me to completely escape it.

The reader is free, of course, to read into the novel either hope or despair. But whichever he does, I doubt that he will be able to avoid a confrontation with this cruelty of the future. If one avoids the ordeal, entrenched in the conviction that there is hope in the future, such hope does not go beyond the realm of wishing. Whether hope or despair, the subjective judgments within the frame of our sense of continuity between present and future have overcome us, I fear.

This novel ends with the death of this sense of continuity. But it will furnish neither understanding nor solution of any sort. You, reader, are plagued by myriad doubts. Much I still do not grasp myself. For instance, what precisely is the position of the assistant, Tanomogi? Does he merely represent a capitalist? Or is he a revolutionary acting under orders of the aquan society produced through the forecasting machine? Or is he a reformist whose intent it is to manipulate capitalists

who do good while wishing to do evil? My uncertainty continued as I wrote; it is still unclarified.

Yet I shall have fulfilled one of the purposes of this novel if I have been able to make the reader confront the cruelty of the future, produce within him anguish and strain, and bring about a dialogue with himself.

And so, when you raise your eyes from this book, your reality lies there before you. To paraphrase Professor Katsumi: The most frightening thing in this world is discovering the abnormal in that which is closest to us.

A Note About the Author

Kobo Abé was born in Tokyo in 1924 but grew up in Mukden, Manchuria, where his father, a doctor, was on the staff of the medical school. As a young man Mr. Abé was interested in mathematics and insect collecting as well as the works of Poe, Dostoevski, Nietzsche, Heidegger, Jaspers, and Kafka. He received a medical degree from Tokyo University in 1948, but he has never practiced medicine. In that same year he published his first book, *The Road Sign at the End of the Street*. In 1951 he was awarded the most important Japanese literary prize, the Akutagawa, for his novel *The Crime of Mr. S. Karuma*. In 1960 his novel *The Woman in the Dunes* won the Yomiuri Prize for Literature. It was made into a film by Hiroshi Teshigahara in 1963 and won the jury prize at the Cannes Film Festival. It was the first of Mr. Abé's novels to be published in translation in the United States, in 1964. *The Face of Another* (1966) was also made into a film by Mr. Teshigahara. Most recently, his novel *The Ruined Map* was published here in 1969. Mr. Abé lives with his wife, Machi, an artist, on the outskirts of Tokyo.

A Note About the Translator

E. Dale Saunders, translator of Kobo Abé's *The Woman in the Dunes* (1964), *The Face of Another* (1966), and *The Ruined Map* (1969), received his A.B. from Western Reserve University (1941), his M.A. from Harvard (1948), and his Ph.D. from the University of Paris (1952). He is Professor of Japanese Studies at the University of Pennsylvania, having previously taught at International Christian University, Tokyo, and at Harvard University. Among his publications are *Mudrá: A Study of Symbolic Gestures in Japanese Buddhist Sculpture* (1960) and *Buddhism in Japan* (1964).